

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.11.94  
Test oil : ISO 4113  
  
Combination No. : 0 402 046 865A  
  
Injection pump  
Pump designation : PES6P120A32OLS3321  
: -1  
EP type number : 0 412 026 766  
  
Governor  
Governor design. : RQ275...950PA1085-1  
Governor no. : 0 421 801 691

Cust. part No. : 645 673

Customer-spec. information  
Customer : RABA  
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

A01

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.05  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 197.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 275
<hr/>	
Rack travel in mm	: 9.10
Tolerance mm	: ± 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 22.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 2.26
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1020
guide sleeve	
travel mm	: 6.35
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 369
guide sleeve	
travel mm	: 4.64
Tolerance mm	: ± 0.10

Rated speed rpm	: 460
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10

Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 500
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure	
hPa	: 900
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 197.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 36.0
tolerance degree	: ± 4.0
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control lever	
position degree	: 98.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 13.05
Rated speed rpm	: 1012
Tolerance 1/min	: ± 5
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rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: ± 15
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rack travel mm	: 0.50
Tolerance mm	: ± 0.50

Rated speed rpm : 1200

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LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

control lever  
position degree : 11.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.80  
Tolerance mm : ± 0.10

Rated speed rpm : 355  
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 8.00

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TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 14.05  
Tolerance mm : ± 0.05

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ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 14.05  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.80  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 380  
rack travel mm : 12.20  
Tolerance mm : ± 0.20

Pressure hPa : 590  
rack travel mm : 13.50  
Tolerance mm : ± 0.05

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 198.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 116.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

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BREAKAWAY

Rack travel in mm : 13.05  
Rated speed rpm : 1012  
Tolerance 1/min : ± 5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

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LOW IDLE

Rated speed rpm : 275  
rack travel mm : 9.10  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.01.95  
Test oil : ISO 4113  
Combination No. : 0 402 046 865B  
Injection pump  
Pump designation : PES6P120A320LS3321  
: -1  
EP type number : 0 412 026 776  
Governor  
Governor design. : RQ275...1100PA1085  
: -1  
Governor no. : 0 421 801 761

Cust. part No. :

Customer-spec. information

Customer : RABA  
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089

AD5

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 12.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.00  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 198.0

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Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

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Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

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Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

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Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 9.50  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 0.76  
Tolerance mm : ± 0.10

Rated speed rpm : 1116  
guide sleeve  
travel mm : 7.85  
Tolerance mm : ± 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 387  
guide sleeve  
travel mm : 3.58  
Tolerance mm : ± 0.10

Rated speed rpm : 500

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1240  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 198.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 47.0  
tolerance degree : ± 4.0

control lever  
position degree : 109.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.00  
Rated speed rpm : 1150  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1220  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

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LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : +- 4.0

control lever  
position degree : 10.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 6.50  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 375  
Tolerance 1/min : +- 20

Rated speed rpm : 175  
CRT mm min. : > 8.50

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TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.00  
Tolerance mm : +- 0.10

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ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 14.10  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.85  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 120  
rack travel mm : 12.10  
Tolerance mm : +- 0.15

Pressure hPa : 340  
rack travel mm : 13.50  
Tolerance mm : +- 0.05

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 198.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

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BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1150  
Tolerance 1/min : +- 5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 9.50  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

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End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 076 748  
Injection pump  
Pump designation : PES6P110A720RS3305  
: -1  
EP type number : 0 412 016 742  
Governor  
Governor design. : RSV300...1100P1A555  
Governor no. : 0 421 833 379

Cust. part No. : 9271058

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 926 TI  
Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 130  
Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 207.5  
Tolerance bar : ± 1.5

A09

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.20  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0

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Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 3.5
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 4.40
Tolerance mm	: ± 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 36.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 5.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

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GUIDE SLEEVE POSITION

Rated speed rpm	: 800
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Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure	
hPa	: 1100
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 165.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 3.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

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CONTROL LEVER

control lever	
position degree	: 108.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 10.25
Rated speed rpm	: 1040
Tolerance 1/min	: ± 5
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rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: ± 15
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rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1260
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rack travel mm	: 4.00
Rated speed rpm	: 1100

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LOW IDLE

control lever	
position degree	: 78.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 400
rack travel mm	: 3.90

Testing:

Rated speed rpm	: 400
rack travel mm	: 4.40
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 450
Tolerance 1/min	: ± 30

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TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 11.25
Tolerance mm	: ± 0.05
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Rated speed rpm	: 600
rack travel mm	: 11.25
Tolerance mm	: ± 0.10

Rated speed rpm : 500  
rack travel mm : 11.25  
Tolerance mm : ± 0.10

Rated speed rpm : 450  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

Rated speed rpm : 400  
rack travel mm : 12.20  
Tolerance mm : ± 0.15

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ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 550  
Pressure hPa : 1100  
rack travel mm : 11.25  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 550  
rack travel mm : 9.75  
Tolerance mm : ± 0.10

Rated speed rpm : 550

Pressure hPa : 650  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

Pressure hPa : 550  
rack travel mm : 10.25  
Tolerance mm : ± 0.10

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 186.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 550

Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

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BREAKAWAY

Rack travel in mm : 10.25  
Rated speed rpm : 1040  
Tolerance 1/min : ± 5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

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LOW IDLE

Rated speed rpm : 400  
rack travel mm : 4.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 402 076 750

Injection pump  
Pump designation : PES6P120A720RS3311  
EP type number : 0 412 026 760

Governor  
Governor design. : RSV400...1050POA602  
Governor no. : 0 421 833 483

Cust. part No. :

Customer-spec. information  
Customer : FNH-GEOTECH  
Motor : P396  
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 103

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.45  
Tolerance mm : ± 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 158.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0

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Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0

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Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

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Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.20  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 26.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20

governor spring  
 pre-tension  
 click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 158.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spreed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 96.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1320

rack travel mm : 4.00  
 Rated speed rpm : 1160

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093  
 rack travel mm : 10.45

Rated speed rpm : 1153  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1320

Rated speed rpm : 1094  
 rack travel mm : 10.45

Rated speed rpm : 1154  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1096

Rated speed rpm : 1095  
 rack travel mm : 10.45

Rated speed rpm : 1155  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55

Rated speed rpm : 1096  
 rack travel mm : 10.45

Rated speed rpm : 1156

Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
  
 Rated speed rpm : 1097  
 rack travel mm : 10.45  
  
 Rated speed rpm : 1157  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
  
 Rated speed rpm : 1098  
 rack travel mm : 10.45  
  
 Rated speed rpm : 1158  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
 rack travel mm : 4.70

Testing:

Rated speed rpm : 400  
 rack travel mm : 5.20  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 530  
 Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 11.45  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 12.50  
 Tolerance mm : + 0.10

Rated speed rpm : 935  
 rack travel mm : 12.00  
 Tolerance mm : + 0.10

Rated speed rpm : 700  
 rack travel mm : 12.50  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 1500  
 rack travel mm : 12.50  
 Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 950  
 rack travel mm : 12.25  
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1500  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 194.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 6.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 127.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.20  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.06.95
Test oil : ISO 4113
Combination No. : 0 402 076 768
Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764
Governor
Governor design. : RSV650...1250P8A567
Governor no. : 0 421 833 443

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : 7,5l - DI
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 103
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.60
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2- 4
Phasing : 0-60-120-180-240
Tolerance : -300
Check tolerance °NW : +- 0.30
Tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.45
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 153.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 5.0



<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm :	650
<hr/>	
Rack travel in mm :	4.80
Tolerance mm :	+ 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes :	21.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20
<hr/>	
governor spring	
pre-tension	
click setting x :	3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1200
Aneroid pressure	
hPa :	1000
Del. quantity	
cm <sup>3</sup> /1000 strokes :	153.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 5.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

---

CONTROL LEVER

control lever	
position degree :	109.0
tolerance degree :	+ 4.0

RATED SPEED

Rated speed rpm :	1300
-------------------	------

ASSEMBLY GOVERNOR SETTING

Rated speed rpm :	1263
rack travel mm :	10.45

Rated speed rpm :	1295
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1500

Rated speed rpm :	1264
rack travel mm :	10.45

Rated speed rpm :	1296
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1265
rack travel mm :	10.45

Rated speed rpm :	1297
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1266
rack travel mm :	10.45

Rated speed rpm :	1298
Tolerance 1/min :	+ 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55

Rated speed rpm :	1267
rack travel mm :	10.45

Rated speed rpm :	1299
Tolerance 1/min :	+ 5

rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1268  
 rack travel mm : 10.45  
 Rated speed rpm : 1300  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55

---

LOW IDLE

control lever  
 position degree : 80.0  
 tolerance degree : ± 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 650  
 rack travel mm : 4.30

Testing:

Rated speed rpm : 650  
 rack travel mm : 4.80  
 Tolerance mm : ± 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 770  
 Tolerance 1/min : ± 50

---

TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 11.45  
 Tolerance mm : ± 0.05  
 Rated speed rpm : 900  
 rack travel mm : 11.80  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 1100  
 rack travel mm : 11.60  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 700  
 rack travel mm : 11.90  
 Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 11.90  
 Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 7.90  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 500  
 Pressure hPa : 595  
 rack travel mm : 11.45  
 Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
 Check  
 speed 1/min : > 80

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 170.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 6.0  
 Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 83.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 650  
rack travel mm : 4.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.96  
Test oil : ISO 4113

Combination No. : 0 402 076 787

Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773

Governor  
Governor design. : RSV400...1050POA602  
Governor no. : 0 421 833 483

Cust. part No. :

Customer-spec. information  
Customer : FNH-GEOTECH  
Motor : EPD40B  
Power KW : 176.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 103

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.75

Start of delivery blocking

Check tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm	:	11.25
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity cm <sup>3</sup> /1000 strokes	:	158.0
<hr/>		
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
<hr/>		
Spread Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	9.0
<hr/>		
Rated speed rpm	:	400
<hr/>		
Rack travel in mm	:	5.00
Tolerance mm	:	+ 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	:	26.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	:	800
<hr/>		
Rack travel in mm	:	0.50
Tolerance mm	:	+ 0.20
<hr/>		
governor spring pre-tension click setting x	:	4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1050
Aneroid pressure hPa	:	1600

Del. quantity cm <sup>3</sup> /1000 strokes	:	158.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0

CONTROL LEVER

control lever position degree	:	94.0
----------------------------------	---	------

RATED SPEED

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1320

rack travel mm	:	4.00
Rated speed rpm	:	1165

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	:	1093
rack travel mm	:	10.20

Rated speed rpm	:	1148
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1320

Rated speed rpm	:	1094
rack travel mm	:	10.20

Rated speed rpm	:	1149
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55

Rated speed rpm	:	1095
rack travel mm	:	10.20

Rated speed rpm	:	1150
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55

Rated speed rpm : 1096  
rack travel mm : 10.20

Rated speed rpm : 1151  
Tolerance 1/min : +- 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : +- 0.55

Rated speed rpm : 1097  
rack travel mm : 10.20

Rated speed rpm : 1152  
Tolerance 1/min : +- 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : +- 0.55

Rated speed rpm : 1098  
rack travel mm : 10.20

Rated speed rpm : 1153  
Tolerance 1/min : +- 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : +- 0.55

---

#### LOW IDLE

control lever  
position degree : 73.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 4.50

Testing:

Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 535  
Tolerance 1/min : +- 50

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.25  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 12.40  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 12.50  
Tolerance mm : +- 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 12.50  
Tolerance mm : +- 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.10  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 980  
rack travel mm : 11.40  
Tolerance mm : +- 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.96  
Test oil : ISO 4113

Combination No. : 0 402 646 743

Injection pump  
Pump designation : PE6P120A320LS7837-2  
EP type number : 0 412 626 943

Governor  
Governor design. : RQ300/1100PA1271  
Governor no. : 0 421 801 803

Cust. part No. : 0270743102

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 120  
Tolerance t/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.50

Rack travel in mm : 14.50  
Tolerance mm : ± 0.10  
Tolerance mm : ± 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.00  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.94  
Tolerance mm : ± 0.20

Rated speed rpm : 1152  
guide sleeve  
travel mm : 6.34  
Tolerance mm : ± 0.15

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 431  
guide sleeve  
travel mm : 4.71  
Tolerance mm : ± 0.10

Rated speed rpm : 570

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1350  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 650

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 14.60  
Rated speed rpm : 1140  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1265  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1350

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 9.00

---

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 14.50  
Tolerance mm : ± 0.05

Rated speed rpm : 1100  
rack travel mm : 15.60  
Tolerance mm : ± 0.10

Rated speed rpm : 700  
rack travel mm : 15.60  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 200  
rack travel mm : -4.00  
Tolerance mm : ± 0.05

Pressure hPa : 500  
rack travel mm : -1.60  
Tolerance mm : ± 0.15

Pressure hPa : 1200  
rack travel mm : 0.45  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 264.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 14.60  
Rated speed rpm : 1140  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.04.92  
Test oil : ISO 4113  
Combination No. : 0 402 646 955  
Injection pump  
Pump designation : PE6P120A320LS7834-1  
EP type number : 0 412 626 857

Governor  
Governor design. : RQV350...1050PA866  
: -13  
Governor no. : 0 421 813 954

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.70

Rack travel in mm : 14.70  
Tolerance mm : ± 0.10  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 223.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.50  
Tolerance mm : ± 0.10

Rated speed rpm : 1200  
guide sleeve  
travel mm : 8.75  
Tolerance mm : ± 0.25

guide sleeve  
travel mm : 4.10  
Tolerance mm : ± 0.20

guide sleeve  
travel mm : 7.00  
Tolerance mm : ± 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
Rack travel in mm : 17.25  
Tolerance mm : ± 0.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 223.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 121.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.70  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1175  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 7.30  
Rated speed rpm : 475

---

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 14.70  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
rack travel mm : 14.90  
Tolerance mm : ± 0.10

Rated speed rpm : 800  
rack travel mm : 15.30  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 300  
rack travel mm : -3.10  
Tolerance mm : ± 0.05

Pressure hPa : 600  
rack travel mm : -1.10  
Tolerance mm : ± 0.10

Pressure hPa : 1350  
rack travel mm : 0.20  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 243.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 1050

Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 13.70

Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet





Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.40  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 550

Rack travel in mm : 15.80  
Tolerance mm : + 0.60

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

B05

control lever  
position degree : 101.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
Rated speed rpm : 1207  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1290  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1450

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.70  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min : + 20

Rated speed rpm : 175

CRT mm min. : > 7.00

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.35  
Tolerance mm : + 0.05

Rated speed rpm : 1150  
rack travel mm : 11.35  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 11.35  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 9.20  
Tolerance mm : +- 0.15

Rated speed rpm : 600

Pressure hPa : 340  
rack travel mm : 10.75  
Tolerance mm : +- 0.05

Pressure hPa : 200  
rack travel mm : 9.70  
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1207  
Tolerance 1/min : +- 8

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.05.95  
Test oil : ISO 4113  
Combination No. : 0 402 646 988  
Injection pump  
Pump designation : PE6P120A320RS7230  
                  : -10X  
EP type number : 0 412 626 899  
Governor  
Governor design. : RQV250...1000PA990K  
Governor no. : 0 421 815 274  
Cust. part No. : 1250705/4

Customer-spec. information  
Customer : DAF  
Motor : WS 295 L  
Power KW : 295.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
  
 Rated speed rpm : 250  
  
 Rack travel in mm : 6.10  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 1038  
 guide sleeve  
 travel mm : 9.74  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 686  
 guide sleeve  
 travel mm : 6.41  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 284  
 guide sleeve  
 travel mm : 2.27  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 334  
 guide sleeve  
 travel mm : 3.17  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 390

guide sleeve  
 travel mm : 3.79  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
  
 Rack travel in mm : 13.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 259.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.95  
 Rated speed rpm : 1032  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1150  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.70  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1275

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.20  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min : ± 20

Rated speed rpm : 150

CRT mm min. : > 7.00

---

TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

Rated speed rpm : 600  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 825  
rack travel mm : 13.40  
Tolerance mm : ± 0.10

Rated speed rpm : 400  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 980  
Pressure hPa : 1500  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 980  
rack travel mm : 8.90  
Tolerance mm : ± 0.10

Rated speed rpm : 980

Pressure hPa : 730  
rack travel mm : 12.65  
Tolerance mm : ± 0.05

Pressure hPa : 300  
rack travel mm : 9.70  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 257.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.95  
Rated speed rpm : 1032  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 6.10  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 648 980  
  
Injection pump  
Pump designation : PE8P120A320LS7839  
                  : -10  
EP type number : 0 412 628 855  
  
Governor  
Governor design. : RQV300...950PA797  
                  : -39  
Governor no. : 0 421 814 115  
  
Cust. part No. : 0250749102

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 047  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Tolerance l/h : ± 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 14.50  
Tolerance mm : ± 0.50  
  
Firing order : 8- 7- 2- 6- 3  
              : - 5- 4- 1  
  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550  
  
Rack travel in mm : 15.20  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 289.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 7.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: +- 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.29
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1010
guide sleeve	
travel mm	: 8.56
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 567
guide sleeve	
travel mm	: 4.66
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 617
guide sleeve	
travel mm	: 5.23
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 780
guide sleeve	
travel mm	: 6.31

Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1092
guide sleeve	
travel mm	: 10.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1030
<hr/>	
Rack travel in mm	: 14.20
Tolerance mm	: +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 289.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 121.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 14.20
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.75
Tolerance mm	: +- 0.75
Rated speed rpm	: 1250



---

**LOW IDLE**

control lever  
position degree : 82.0  
tolerance degree : ± 4.0

**Testing:**

Rated speed rpm : 300  
rack travel mm : 5.20  
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 8.50

Rated speed rpm : 360

---

**TORQUE CONTROL**

Rated speed rpm : 550  
rack travel mm : 15.20  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 15.20  
Tolerance mm : ± 0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400  
Pressure hPa : 1200  
rack travel mm : 15.20  
Tolerance mm : ± 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 8.25  
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300  
rack travel mm : 9.95  
Tolerance mm : ± 0.20

Pressure hPa : 500  
rack travel mm : 11.65  
Tolerance mm : ± 0.20

---

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---

**START CUT-OUT**

Rated speed rpm : > 190  
Rated speed rpm : < 220

Check  
speed 1/min : > 170  
Check  
speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 271.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 136.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

**BREAKAWAY**

Rack travel in mm : 14.20  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 676 815  
  
Injection pump  
Pump designation : PE6P120A320LS7808-3  
EP type number : 0 412 626 870  
  
Governor  
Governor design. : RSV500...900POA535  
: -8  
Governor no. : 0 421 833 387  
  
Cust. part No. : 0230747602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 441 LA  
Power KW : 236.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
  
Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

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Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 5.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : + 0.50  
  
Firing order : 6- 3- 5- 2- 4-  
: 1  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50  
  
Start of delivery mark  
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 880  
  
Rack travel in mm : 14.50  
Tolerance mm : + 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 500

Rack travel in mm : 4.60  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 82.0  
tolerance degree : ± 4.0

---

LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 500  
rack travel mm : 4.60  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 530  
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

---

TORQUE CONTROL

Rated speed rpm : 880  
rack travel mm : 14.50  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Pressure hPa : 400

rack travel mm : 1.65  
Tolerance mm : +- 0.05  
  
Pressure hPa : 600  
rack travel mm : 3.30  
Tolerance mm : +- 0.10

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

#### LOW IDLE

Rated speed rpm : 500  
rack travel mm : 4.60  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 678 821  
  
Injection pump  
Pump designation : PE8P120A320LS7860-1  
EP type number : 0 412 628 871  
  
Governor  
Governor design. : RSV350...1050POA535  
: -11  
Governor no. : 0 421 833 391  
  
Cust. part No. : 0210749302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 402 LA  
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
  
Overflow quantity  
min. L/h : 110  
Tolerance L/h : +- 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 2.5  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
  
Prestroke mm : 5.55  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : +- 0.50  
  
Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1  
  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030  
  
Rack travel in mm : 12.85  
Tolerance mm : +- 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 207.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.00  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 207.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 99.0  
tolerance degree : + 4.0

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 405  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1030  
rack travel mm : 12.85  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 13.50  
Tolerance mm : + 0.10

Rated speed rpm : 900  
rack travel mm : 13.30  
Tolerance mm : + 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 400  
Pressure hPa : 350  
rack travel mm : 0.75  
Tolerance mm :  $\pm$  0.20  
Pressure hPa : 650  
rack travel mm : 2.10  
Tolerance mm :  $\pm$  0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113
Combination No. : 0 402 696 801
Injection pump Pump designation : PE6P120A720RS7211 : -10
EP type number : 0 412 626 931
Governor Governor design. : RE30
Governor no. : 0 421 890 009

Cust. part No. : 1328037

Customer-spec. information
Customer : SCANIA
Motor : DTC1102,DSC1170

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Tolerance l/h : + 20.0
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : + 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 5.05
Prestroke mm : 5.05
Tolerance mm : + 0.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10
Check tolerance mm : + 0.10
Rack travel in mm : 10.50
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300
Tolerance : + 0.30
Check tolerance °NW : + 0.50
Start of delivery mark
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Barrel no. : 1

Vibration damper  
(RoBo diaphragm) : 3.1

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
 $n=600 \text{ min}^{-1}$ ,  $U_{act} = 2.5 \text{ V}$

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed  $\text{min}^{-1}$ : 0

Setting point  
(P, R and H pump)

$U_{act} \text{ V}$  : 3.100  
CRT mm : 13.00  
Tolerance mm :  $\pm 0.05$   
Check tolerance mm :  $\pm 0.10$

Check value  
(P, R and H pump)

$U_{act} \text{ V}$  : 1.700  
CRT mm : 6.15  
Tolerance mm :  $\pm 0.25$   
Check tolerance mm :  $\pm 0.30$

Setting point  
(M pump)

$U_{act} \text{ V}$  : 3.100  
CRT mm : 12.50  
Tolerance mm :  $\pm 0.05$   
Check tolerance mm :  $\pm 0.10$

Check value  
(M pump)

$U_{act} \text{ V}$  : 1.700  
CRT mm : 5.50  
Tolerance mm :  $\pm 0.25$   
Check tolerance mm :  $\pm 0.30$

Stop position

$U_{act} \text{ V}$  : Value with

deenergised adjusting magnet  
and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm :  $\pm 0.25$   
Check tolerance mm :  $\pm 0.35$

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed  $\text{min}^{-1}$ : 60  
Amplitude V : 1.4  
Tolerance V :  $\pm 0.6$   
Check tolerance V :  $\pm 1.20$

Engine speed  $\text{min}^{-1}$ : 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
 $U_{act} \text{ V}$  : 3.000  
Del. quantity  
 $\text{cm}^3/1000 \text{ strokes}$  : 248.0  
Tolerance  
 $\text{cm}^3/1000 \text{ strokes}$  :  $\pm 1.0$   
Check tolerance  
 $\text{cm}^3/1000 \text{ S.}$  :  $\pm 4.0$   
Spreed  
Tolerance  
 $\text{cm}^3/1000 \text{ strokes}$  : 8.0  
Check tolerance  
 $\text{cm}^3/1000 \text{ S.}$  : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
 $U_{act} \text{ V}$  : 3.000  
Del. quantity  
 $\text{cm}^3/1000 \text{ strokes}$  : 224.0  
Tolerance  
 $\text{cm}^3/1000 \text{ strokes}$  :  $\pm 4.0$   
Check tolerance  
 $\text{cm}^3/1000 \text{ S.}$  :  $\pm 6.0$

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.95  
Test oil : ISO 4113  
Combination No. : 0 402 696 803  
Injection pump  
Pump designation : PE6P120A720RS7211  
EP type number : 0 412 626 838  
Governor  
Governor design. : RE30  
Governor no. : 0 421 890 019

Cust. part No. : 1370681

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1122,DTC1102

---

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 20.0  
Test nozzle holder  
assembly : 1 688 901 104  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

---

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

Vibration  
damper  
(RoBo diaphragm) : 3.1

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet

and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 248.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 224.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.95  
Test oil : ISO 4113  
Combination No. : 0 402 696 804  
Injection pump  
Pump designation : PE6P120A720RS7355  
EP type number : 0 412 626 933

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 022

Cust. part No. : 1370672

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1122,DTC1102

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

Vibration  
damper  
(RoBo diaphragm) : 3.1

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet

and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 248.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 224.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

---



End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.95  
Test oil : ISO 4113  
Combination No. : 0 402 698 802  
Injection pump  
Pump designation : PE8P120A920/4LS7149  
EP type number : 0 412 628 826  
Governor  
Governor design. : RE30  
Governor no. : 0 421 890 007

Cust. part No. : 397567

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1404

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 20.0  
Test nozzle holde  
assembly : 1 688 901 019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015

C02

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50  
Firing order : 1- 2- 7- 3- 4  
                  : - 5- 6- 8  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1  
Vibration damper  
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING

Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet

and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.180  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.180  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.09.95  
Test oil : ISO 4113  
Combination No. : 0 402 698 804  
Injection pump  
Pump designation : PE8P120A720LS7205  
: -10  
EP type number : 0 412 628 895  
Governor  
Governor design. : RE30  
Governor no. : 0 421 890 007

Cust. part No. : 1328039

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1409,DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

C05

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50

Check  
tolerance °NW : +- 0.75  
Barrel no. : 1  
Vibration  
damper  
(RoBo diaphragm) : 3.2

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

C06

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 248.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 224.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113
Combination No. : 0 402 698 806
Injection pump Pump designation : PE8P120A720LS7331
EP type number : 0 412 628 896
Governor Governor design. : RE30
Governor no. : 0 421 890 022
Cust. part No. : 1362097

Customer-spec. information
Customer : SCANIA
Motor : DSC1409,DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : +- 0.1
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : +- 0.05
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Check tolerance mm : +- 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Tolerance mm : +- 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : +- 0.30
Check tolerance \*NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50
Check tolerance \*NW : +- 0.75

Barrel no. : 1



Vibration  
damper  
(RoBo diaphragm) : 3.2

---

(B) POSITIONER TESTING

Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in

stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 248.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 224.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.02.96  
Test oil : ISO 4113  
Combination No. : 0 402 736 901  
Injection pump  
Pump designation : PES6P120A720/3LS7251  
: -1  
EP type number : 0 412 726 926  
Governor  
Governor design. : RQV300...1000PA962  
: -16K  
Governor no. : 0 421 815 506  
Cust. part No. : 51.11103-7505

Customer-spec. information  
Customer : MAN  
Motor : D2866 LF09  
Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
Overflow quantity  
min. L/h : 165  
Tolerance L/h : ± 20.0  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5

Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 13.00  
Tolerance mm : ± 0.50  
Firing order : 6- 2- 4- 1- 5-  
: 3  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery blocking  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 750  
Rack travel in mm : 6.50

Tolerance mm	: ± 0.10
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 107.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 14.0
<hr/>	
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 6.0
<hr/>	
Rated speed rpm	: 900
<hr/>	
Rack travel in mm	: 13.40
Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 279.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 10.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 14.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.40
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 32.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

C12

---

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 2.65
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1056
guide sleeve travel mm	: 8.01
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 423
guide sleeve travel mm	: 4.01
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1480
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm	: 1310
Rack travel in mm	: 12.10
Tolerance mm	: ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 279.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 10.0
Check tolerance cm <sup>3</sup> /1000S.	: 14.0

---

CONTROL LEVER

control lever position degree	: 285.0
tolerance degree	: ± 4.0

---

RATED SPEED

rack travel mm : 12.10  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1220  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 245.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 330

---

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 13.40  
Tolerance mm : + 0.05

Rated speed rpm : 1000  
rack travel mm : 13.10  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 12.80  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 900  
Pressure hPa : 1200  
rack travel mm : 13.40  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 9.20  
Tolerance mm : + 0.10

Rated speed rpm : 900

Pressure hPa : 220  
rack travel mm : 9.45  
Tolerance mm : + 0.05

Pressure hPa : 720  
rack travel mm : 11.90  
Tolerance mm : + 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 240

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 260

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 271.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

BREAKAWAY

Rack travel in mm : 12.10  
Rated speed rpm : 1045  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 32.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.02.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 902

Injection pump  
Pump designation : PES6P120A720/3LS7251  
: -1  
EP type number : 0 412 726 926

Governor  
Governor design. : RQV300...1000PA962  
: -17K  
Governor no. : 0 421 815 507

Cust. part No. : 51.11103-7506

---

Customer-spec. information  
Customer : MAN  
Motor : D2866 LF09  
Power KW : 294.0

---

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. L/h : 165  
Tolerance L/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

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Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 13.00  
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

---

BASIC SETTING

Rated speed rpm : 750

---

Rack travel in mm : 6.50

Tolerance mm	: ± 0.10
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 107.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 14.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 6.0
<hr/>	
Rated speed rpm	: 900
<hr/>	
Rack travel in mm	: 13.40
Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 279.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 10.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 14.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.40
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 32.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

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---

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.80
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1059
guide sleeve travel mm	: 8.73
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 772
guide sleeve travel mm	: 6.83
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 480
guide sleeve travel mm	: 3.79
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1510
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm	: 1290
<hr/>	
Rack travel in mm	: 12.10
Tolerance mm	: ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 279.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 10.0
Check tolerance cm <sup>3</sup> /1000S.	: 14.0

---

CONTROL LEVER



control lever  
position degree : 294.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 12.10  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1215  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 253.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 7.20

Rated speed rpm : 330

---

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 13.40  
Tolerance mm : + 0.05

Rated speed rpm : 1000  
rack travel mm : 13.10  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 12.80  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 900  
Pressure hPa : 1200  
rack travel mm : 13.40  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 9.20  
Tolerance mm : + 0.10

Rated speed rpm : 900

Pressure hPa : 220  
rack travel mm : 9.45  
Tolerance mm : + 0.05

Pressure hPa : 720  
rack travel mm : 11.90  
Tolerance mm : + 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 240

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 260

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 271.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.10  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 32.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.07.95  
Test oil : ISO 4113  
  
Combination No. : 0 402 746 601  
  
Injection pump  
Pump designation : PES6P120A72ORS7389  
EP type number : 0 412 726 944  
  
Governor  
Governor design. : RQ275/1050PA1021-4  
Governor no. : 0 421 801 795

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8460.41E.711

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 076  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. L/h : 145  
Tolerance L/h : ± 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
Check  
tolerance °NW : ± 0.40  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050  
  
Rack travel in mm : 10.95  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 171.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 4.60  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 171.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

rack travel mm : 9.90  
Rated speed rpm : 1103  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1165  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.60  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 356  
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 6.10

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 10.95  
Tolerance mm : ± 0.05

Rated speed rpm : 550  
rack travel mm : 11.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 10.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 220  
rack travel mm : 9.30  
Tolerance mm : ± 0.20

Pressure hPa : 340  
rack travel mm : 10.35  
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check speed 1/min : > 80  
Check speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 550  
Del. quantity cm<sup>3</sup>/1000 strokes : 182.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.90

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Rated speed rpm : 1103  
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 4.60  
Tolerance mm : ± 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Speed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 746 606  
  
Injection pump  
Pump designation : PES6P110A720RS7406  
EP type number : 0 412 716 810  
  
Governor  
Governor design. : RQV300...1050PA1090  
                  : -1K  
Governor no. : 0 421 815 497  
  
Cust. part No. : 9279607

---

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 926 TI-E  
Power KW : 230.0

---

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 125  
Tolerance l/h : ± 20.0  
  
Test nozzle holder  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

C22

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BASIC SETTING

Rated speed rpm : 1050  
  
Rack travel in mm : 13.80  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.86  
Tolerance mm : + 0.20

Rated speed rpm : 1117  
guide sleeve  
travel mm : 10.27  
Tolerance mm : + 0.15

Rated speed rpm : 756  
guide sleeve  
travel mm : 6.17  
Tolerance mm : + 0.25

Rated speed rpm : 480  
guide sleeve  
travel mm : 3.75  
Tolerance mm : + 0.25

Rated speed rpm : 1330  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 12.80  
Tolerance mm : + 2.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 1600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.80  
Rated speed rpm : 1090  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : + 0.10

Rated speed rpm : 250  
CRT mm min. : > 7.40  
Rated speed rpm : 420

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.80  
Tolerance mm : + 0.05  
  
Rated speed rpm : 950  
rack travel mm : 13.65  
Tolerance mm : + 0.15  
  
Rated speed rpm : 900  
rack travel mm : 13.35  
Tolerance mm : + 0.15  
  
Rated speed rpm : 800  
rack travel mm : 12.85  
Tolerance mm : + 0.10  
  
Rated speed rpm : 600  
rack travel mm : 11.80  
Tolerance mm : + 0.15  
  
Rated speed rpm : 500  
rack travel mm : 10.95  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
Pressure hPa : 1600  
rack travel mm : 13.80  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1050  
rack travel mm : 10.55  
Tolerance mm : + 0.15  
  
Rated speed rpm : 1050  
  
Pressure hPa : 1020  
rack travel mm : 13.00  
Tolerance mm : + 0.05  
  
Pressure hPa : 740

rack travel mm : 11.45  
Tolerance mm : + 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 207.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 1090  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.55  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0



---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 746 606A  
Injection pump  
Pump designation : PES6P110A72ORS7406  
EP type number : 0 412 716 810  
Governor  
Governor design. : RQV300...1050PA1090  
                  : -1K  
Governor no. : 0 421 815 497  
Cust. part No. : 9279607

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 926 TI-E  
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Overflow quantity min. l/h : 125  
Tolerance l/h : ± 10.0  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1050  
Rack travel in mm : 13.80  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 205.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.86  
Tolerance mm : +- 0.20

Rated speed rpm : 1102  
guide sleeve  
travel mm : 10.05  
Tolerance mm : +- 0.15

Rated speed rpm : 749  
guide sleeve  
travel mm : 6.11  
Tolerance mm : +- 0.25

Rated speed rpm : 480  
guide sleeve  
travel mm : 3.75  
Tolerance mm : +- 0.25

Rated speed rpm : 1330  
guide sleeve  
travel mm : 13.50  
Tolerance mm : +- 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 12.80  
Tolerance mm : +- 2.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 1600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.80  
Rated speed rpm : 1090  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : +- 0.10

Rated speed rpm : 250  
 CRT mm min. : > 7.40  
 Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 13.80  
 Tolerance mm : +- 0.05

Rated speed rpm : 950  
 rack travel mm : 13.65  
 Tolerance mm : +- 0.15

Rated speed rpm : 900  
 rack travel mm : 13.35  
 Tolerance mm : +- 0.15

Rated speed rpm : 800  
 rack travel mm : 12.85  
 Tolerance mm : +- 0.10

Rated speed rpm : 600  
 rack travel mm : 11.80  
 Tolerance mm : +- 0.15

Rated speed rpm : 500  
 rack travel mm : 10.95  
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
 Pressure hPa : 1600  
 rack travel mm : 13.80  
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 1050  
 rack travel mm : 10.55  
 Tolerance mm : +- 0.15

Rated speed rpm : 1050

Pressure hPa : 1020  
 rack travel mm : 13.00  
 Tolerance mm : +- 0.05

Pressure hPa : 740

rack travel mm : 11.45  
 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1600  
 Rated speed rpm : 800  
 Del. quantity cm3/1000 strokes : 207.0  
 Tolerance cm3/1000 strokes : +- 3.0  
 Check tolerance cm3/1000S. : +- 6.0

Aneroid pressure hPa : 1600  
 Rated speed rpm : 500  
 Del. quantity cm3/1000 strokes : 194.0  
 Tolerance cm3/1000 strokes : +- 3.0  
 Check tolerance cm3/1000S. : +- 6.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm3/1000 strokes : 184.0  
 Tolerance cm3/1000 strokes : +- 1.0  
 Check tolerance cm3/1000S. : +- 4.0  
 Spreed Tolerance cm3/1000 strokes : 8.0  
 Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.80  
 Rated speed rpm : 1090  
 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 10.55  
 Tolerance mm : +- 0.20  
 Del. quantity cm3/1000 strokes : 175.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.11.94  
Test oil : ISO 4113  
Combination No. : 0 402 746 997  
Injection pump  
Pump designation : PES6P120A72ORS7224  
: -2  
EP type number : 0 412 726 893  
Governor  
Governor design. : RQV275...1100PA975  
: -3K  
Governor no. : 0 421 815 350  
Cust. part No. :

Customer-spec. information  
Customer : IVECO-AIFO  
Motor : 8361 SRM 40.10

TEST BENCH REQUIREMENTS

Inlet Line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 076  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Overflow quantity  
min. l/h : 140  
Tolerance l/h : ± 20.0  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

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Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Check  
tolerance °NW : ± 0.40  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.50  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 2.00  
Tolerance mm : ± 0.20

Rated speed rpm : 1150  
guide sleeve  
travel mm : 10.45  
Tolerance mm : ± 0.15

Rated speed rpm : 764  
guide sleeve  
travel mm : 6.24  
Tolerance mm : ± 0.25

Rated speed rpm : 430  
guide sleeve  
travel mm : 3.63  
Tolerance mm : ± 0.25

Rated speed rpm : 1350

guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1210

Rack travel in mm : 10.70  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 120.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.70  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1235  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.50  
Tolerance mm : +- 0.10

Rated speed rpm : 100  
CRT mm min. : > 6.70

Rated speed rpm : 335

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.75  
Tolerance mm : +- 0.05

Rated speed rpm : 900  
rack travel mm : 12.75  
Tolerance mm : +- 0.10

Rated speed rpm : 500  
rack travel mm : 11.80  
Tolerance mm : +- 0.10

Rated speed rpm : 700  
rack travel mm : 12.50  
Tolerance mm : +- 0.10

Rated speed rpm : 350  
rack travel mm : 11.40  
Tolerance mm : +- 0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 900  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 7.70  
Tolerance mm : +- 0.20

Rated speed rpm : 900

Pressure hPa : 410  
rack travel mm : 8.80  
Tolerance mm : +- 0.20

Pressure hPa : 750  
rack travel mm : 11.35  
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 170  
Rated speed rpm : < 220

Check speed 1/min : > 150  
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 900  
Del. quantity cm<sup>3</sup>/1000 strokes : 228.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 243.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY



Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113

Combination No. : 0 402 796 820

Injection pump  
Pump designation : PES6P120A720LS7410  
EP type number : 0 412 726 957

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 038

Cust. part No. : 0260744902

---

Customer-spec. information  
Customer : MTU  
Motor : 6-R-183  
Power KW : 441.0

---

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.05

Prestroke mm : 4.05  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.00

Rack travel in mm : 20.50  
Tolerance mm : ± 1.00  
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

---

(B) POSITIONER TESTING

Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check

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tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1150  
Uact V : 3.500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 362.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 750  
Uact V : 3.500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 428.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.02.95  
Test oil : ISO 4113  
  
Combination No. : 0 402 846 301  
  
Injection pump  
Pump designation : PE6P120A32ORS8508  
EP type number : 0 412 826 201  
  
Governor  
Governor design. : RQV275...1000PA1099K  
Governor no. : 0 421 815 983

Cust. part No. : 1287579/4

Customer-spec. information

Customer : DAF  
Motor : WS 315 M  
Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity min. L/h : 180  
Tolerance L/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.35  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 321.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 275

Rack travel in mm : 5.80  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 13.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 2.14  
Tolerance mm : + 0.15

Rated speed rpm : 1050  
guide sleeve  
travel mm : 9.89  
Tolerance mm : + 0.20

Rated speed rpm : 692  
guide sleeve  
travel mm : 6.45  
Tolerance mm : + 0.25

Rated speed rpm : 284  
guide sleeve  
travel mm : 2.27  
Tolerance mm : + 0.25

Rated speed rpm : 334

guide sleeve  
travel mm : 3.08  
Tolerance mm : + 0.25

Rated speed rpm : 400  
guide sleeve  
travel mm : 3.92  
Tolerance mm : + 0.25

Rated speed rpm : 1310  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 12.70  
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 321.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever  
position degree : 120.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.35  
Rated speed rpm : 1037  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1150  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70

Rated speed rpm : 1275

---

LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.80  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 405  
Tolerance 1/min : +- 20

Rated speed rpm : 175

CRT mm min. : > 8.00

---

TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 13.35  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 12.75  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 12.05  
Tolerance mm : +- 0.10

Rated speed rpm : 500  
rack travel mm : 12.00  
Tolerance mm : +- 0.10

Rated speed rpm : 400  
rack travel mm : 11.95  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 980  
Pressure hPa : 1500  
rack travel mm : 13.35  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 980  
rack travel mm : 8.90  
Tolerance mm : +- 0.10

Rated speed rpm : 980

Pressure hPa : 750  
rack travel mm : 12.25  
Tolerance mm : +- 0.05

Pressure hPa : 420  
rack travel mm : 10.00  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 316.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 13.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 5.0

---

BREAKAWAY

Rack travel in mm : 12.35  
Rated speed rpm : 1037  
Tolerance 1/min : +- 5

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 13.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.95  
Test oil : ISO 4113  
Combination No. : 0 402 896 004  
Injection pump  
Pump designation : PE6P120A720RS8010  
EP type number : 0 412 826 014  
Governor  
Governor design. : RE30  
Governor no. : 0 421 890 009

Cust. part No. : 1328145

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1127

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 2.5  
Tolerance bar : +- 0.1  
Tolerance L/h : +- 20.0  
Test nozzle holde  
assembly : 1 688 901 104  
Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 2.85

Prestroke mm : 2.85  
Tolerance mm : +- 0.05  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : +- 0.30  
Check  
tolerance \*NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50  
Check  
tolerance \*NW : +- 0.75



Barrel no. : 1  
Vibration damper (RoBo diaphragm) : 3.1

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min<sup>-1</sup>: 0  
Setting point (P, R and H pump)  
Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point (M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with deenergised adjusting magnet

and control rod in stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

---

ENGINE-SPEED SENSOR  
(All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference Amplitude to Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.500  
Del. quantity cm<sup>3</sup>/1000 strokes : 332.0  
Tolerance cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +/- 4.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900  
Uact V : 3.500  
Del. quantity cm<sup>3</sup>/1000 strokes : 301.0  
Tolerance cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance cm<sup>3</sup>/1000S. : +/- 6.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.95  
Test oil : ISO 4113

Combination No. : 0 402 896 013

Injection pump  
Pump designation : PE6P120A72ORS8025  
EP type number : 0 412 826 026

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 019

Cust. part No. : 1361124

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1124

---

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 240  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50

Check tolerance \*NW : +- 0.75

Barrel no. : 1

Vibration damper (RoBo diaphragm) : 3.1

---

(B) POSITIONER TESTING

Warm-up time: 3 minutes at n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min<sup>-1</sup>: 0

Setting point (P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point (M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with deenergised adjusting magnet and control rod in stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

---

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to Amplitude V : max. 1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.500  
Del. quantity cm<sup>3</sup>/1000 strokes : 340.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900  
Uact V : 3.500  
Del. quantity cm<sup>3</sup>/1000 strokes : 309.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 246 053  
Injection pump  
Pump designation : PES6MW100/720RS1527  
EP type number : 0 413 206 026  
Governor  
Governor design. : RQV300...1300MW132  
: -20  
Governor no. : 0 420 083 339  
Cust. part No. : 0260749402

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 4.55  
Tolerance mm : +- 0.05  
Check tolerance mm : +- 0.10  
Rack travel in mm : 20.00  
Tolerance mm : +- 1.00  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.50  
Check tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 14.40  
Tolerance mm : +- 0.05  
Del. quantity cm3/1000 strokes : 130.0  
Tolerance cm3/1000 strokes : +- 1.0  
Check tolerance cm3/1000S. : +- 4.0  
Speed  
Tolerance cm3/1000 strokes : 4.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 300  
 Rack travel in mm : 4.00  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.01  
 Tolerance mm : + 0.20

Rated speed rpm : 1354  
 guide sleeve  
 travel mm : 6.71  
 Tolerance mm : + 0.15

Rated speed rpm : 1090  
 guide sleeve  
 travel mm : 4.70  
 Tolerance mm : + 0.25

Rated speed rpm : 690  
 guide sleeve  
 travel mm : 2.97  
 Tolerance mm : + 0.25

Rated speed rpm : 1683  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + 0.25

Rated speed rpm : 1780  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1480  
 Rack travel in mm : 10.00  
 Tolerance mm : + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 130.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.40  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1495  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1550

---

LOW IDLE

control lever  
 position degree : 74.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 4.00  
 Tolerance mm : + 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.50

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.40  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 14.40  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 14.40  
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 4.30  
Tolerance mm : + 0.10

Pressure hPa : 300  
rack travel mm : 1.50  
Tolerance mm : + 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check speed 1/min : > 80  
Check speed 1/min : < 220

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 750

Del. quantity cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0

Speed Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 43.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.00  
Tolerance mm : + 0.30  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
Speed Tolerance cm<sup>3</sup>/1000 strokes : 3.5



Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 246 054  
Injection pump  
Pump designation : PES6MW100/72ORS1526  
EP type number : 0 413 206 025  
Governor  
Governor design. : RQV300...1300MW154  
Governor no. : 0 420 083 341  
Cust. part No. : 0260748702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

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x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 20.00  
Tolerance mm : ± 1.00  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check tolerance \*NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 11.90  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 98.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 300  
 Rack travel in mm : 4.30  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.01  
 Tolerance mm : + 0.20

Rated speed rpm : 1352  
 guide sleeve  
 travel mm : 6.10  
 Tolerance mm : + 0.15

Rated speed rpm : 1140  
 guide sleeve  
 travel mm : 4.84  
 Tolerance mm : + 0.25

Rated speed rpm : 740  
 guide sleeve  
 travel mm : 3.23  
 Tolerance mm : + 0.25

Rated speed rpm : 1800  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + 0.25

Rated speed rpm : 1910  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1445  
 Rack travel in mm : 10.00  
 Tolerance mm : + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 98.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

---

CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1500  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1600

---

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 4.30  
 Tolerance mm : + 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.80

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.90  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 11.90  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 11.90  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 1.30  
Tolerance mm : + 0.10

Pressure hPa : 250  
rack travel mm : 0.65  
Tolerance mm : + 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 750

Del. quantity cm<sup>3</sup>/1000 strokes : 92.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 61.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.0

---

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1345  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.30  
Tolerance mm : + 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 403 474 003
Injection pump
Pump designation : PES4MW100/720RS1127
EP type number : 0 413 404 103
Governor
Governor design. : RSV350...1300MWOA318
Governor no. : 0 420 085 087
Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM364A
Power KW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1280
Rack travel in mm : 12.50
Tolerance mm : ± 0.10
Del. quantity cm3/1000 strokes : 85.0
Tolerance cm3/1000 strokes : ± 1.0
Check tolerance cm3/1000s. : ± 3.0
Speed Tolerance cm3/1000 strokes : 3.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 350  
 Rack travel in mm : 9.30  
 Tolerance mm : ± 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : ± 0.35  
 governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1280  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 85.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 104.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.40  
 Rated speed rpm : 1325  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1405  
 Tolerance 1/min : ± 15  
 rack travel mm : 1.00  
 Tolerance mm : ± 0.70  
 Rated speed rpm : 1480

LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
 rack travel mm : 9.30  
 Tolerance mm : ± 0.05  
 rack travel mm : 2.00  
 Rated speed rpm : 500  
 Tolerance 1/min : ± 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1280  
 rack travel mm : 12.50  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 750  
 rack travel mm : 13.40  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 950  
 rack travel mm : 13.00  
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1325  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 9.30  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strukes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.03.96
Test oil : ISO 4113
Combination No. : 0 403 476 059
Injection pump
Pump designation : PES6MW100/72ORS1130
EP type number : 0 413 406 122
Governor
Governor design. : RSV750...1250MWOA325
: -1
Governor no. : 0 420 085 112
Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

E01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.75
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1230
Rack travel in mm : 10.95
Tolerance mm : +- 0.05
Del. quantity
cm3/1000 strokes : 78.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 3.0
Speed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 750

Rack travel in mm : 5.80

Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : ± 0.35

governor spring  
pre-tension  
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1230

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 1.00

Tolerance mm : ± 0.70

Rated speed rpm : 1350

rack travel mm : 4.00

Rated speed rpm : 1305

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1270

rack travel mm : 9.95

Rated speed rpm : 1300

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1271

rack travel mm : 9.95

Rated speed rpm : 1301

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1272

rack travel mm : 9.95

Rated speed rpm : 1302

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1273

rack travel mm : 9.95

Rated speed rpm : 1303

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1274

rack travel mm : 9.95

Rated speed rpm : 1304

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1275

rack travel mm : 9.95

Rated speed rpm : 1305

Tolerance 1/min : ± 5

rack travel mm : 4.00

LOW IDLE

control lever  
position degree : 78.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 750  
rack travel mm : 5.80  
Tolerance mm : +- 0.15

rack travel mm : 2.00  
Rated speed rpm : 775

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1230  
rack travel mm : 10.95  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 10.95  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 750  
rack travel mm : 5.80  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 476 075  
Injection pump  
Pump designation : PES6MW100/72ORS1130  
EP type number : 0 413 406 122  
Governor  
Governor design. : RSV350...750MW0A336  
: -4  
Governor no. : 0 420 085 160  
Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366A  
Power kW : 84.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

E04

x inside diameter : 2.5  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 12.05  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 350  
 Rack travel in mm : 6.30  
 Tolerance mm : + 0.50  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 2.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 85.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 78.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 850

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
 rack travel mm : 11.00

Rated speed rpm : 779  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 751  
 rack travel mm : 11.00

Rated speed rpm : 780  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 752  
 rack travel mm : 11.00

Rated speed rpm : 781  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 753  
 rack travel mm : 11.00

Rated speed rpm : 782  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 754  
 rack travel mm : 11.00

Rated speed rpm : 783  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 755  
 rack travel mm : 11.00

Rated speed rpm : 784  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.30  
Tolerance mm : +- 0.50

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.05  
Tolerance mm : +- 0.05

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 6.30  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

E06

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.02.96
Test oil : ISO 4113
Combination No. : 9 400 085 319
Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018
Governor
Governor design. : RQV300...1400AB1066
Governor no. : 9 420 080 287
Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 352 A
Power kW : 141.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 006
Inlet press. bar : 1.5
Test nozzle holde assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

E07

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.25
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 9.55
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 78.5
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 3.0
Spreed Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000S. : 6.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : ± 0.25

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 78.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

E08

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 62.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 111.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.50  
 Rated speed rpm : 1465  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1550  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 67.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 19.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 485

TORQUE CONTROL



Rated speed rpm : 1400  
rack travel mm : 9.55  
Tolerance mm : +- 0.05

Rated speed rpm : 800  
rack travel mm : 10.05  
Tolerance mm : +- 0.05

Rated speed rpm : 1000  
rack travel mm : 9.80  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 10.05  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 170  
rack travel mm : 0.55  
Tolerance mm : +- 0.05

Pressure hPa : 330  
rack travel mm : 1.20  
Tolerance mm : +- 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : 700  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 8.50  
Rated speed rpm : 1465  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.00  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 13.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.02.96  
Test oil : ISO 4113  
Combination No. : 9 400 085 363  
Injection pump  
Pump designation : PES6A95D41ORS2772  
EP type number : 9 400 084 018  
Governor  
Governor design. : RQV300...1300AB1277L  
Governor no. : 9 420 080 355

Cust. part No. :

Customer-spec. information  
Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Prestroke mm : 3.25  
Tolerance mm : +- 0.05  
Check tolerance mm : +- 0.10  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 10.55  
Tolerance mm : +- 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 91.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 3.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : ± 0.25

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 91.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 108.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.50  
 Rated speed rpm : 1350  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 100  
 CRT mm min. : > 8.00

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 10.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 800  
 rack travel mm : 11.25  
 Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 11.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 11.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 500  
rack travel mm : 1.20  
Tolerance mm : ± 0.10  
  
Pressure hPa : 310  
rack travel mm : 0.45  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220  
  
Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 9.50  
Rated speed rpm : 1350  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.30  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.96  
Test oil : ISO 4113  
Combination No. : 9 400 085 377  
Injection pump  
Pump designation : PES6A95D41ORS2857  
EP type number : 9 400 084 036  
Governor  
Governor design. : RQV300...1250AB1284L  
Governor no. : 9 420 080 372

Cust. part No. :

Customer-spec. information  
Customer : DEUTZ-ARGENTINA  
Motor : BF 6 L 913C  
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.25  
Tolerance mm : + 0.05  
Del. quantity cm3/1000 strokes : 98.5  
Tolerance cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 3.0  
Spreed Tolerance cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 8.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1250  
 guide sleeve  
 travel mm : 7.70  
 Tolerance mm : ± 0.10

Rated speed rpm : 900  
 guide sleeve  
 travel mm : 5.35  
 Tolerance mm : ± 0.25

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.85  
 Tolerance mm : ± 0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 1400  
 guide sleeve  
 travel mm : 9.05  
 Tolerance mm : ± 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1350  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 900

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 98.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.20  
 Rated speed rpm : 1295  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1400  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 7.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.25



Tolerance mm : +- 0.05  
Rated speed rpm : 800  
rack travel mm : 11.25  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.25  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 670  
rack travel mm : 1.60  
Tolerance mm : +- 0.10  
  
Pressure hPa : 550  
rack travel mm : 0.45  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220  
  
Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.10  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 863 008  
  
Injection pump  
Pump designation : PES3A90d320/3RS2658  
EP type number : 0 410 893 004  
  
Governor  
Governor design. : RSV325...1500A2C505  
                  : -3R  
Governor no. : 0 420 233 229  
  
Cust. part No. : 1-7545

Customer-spec. information

Customer : MWM  
Motor : D226B-3  
Power KW : 49.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende  
and maximum rack  
travel : 9.00  
Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 9.80  
Tolerance mm : +- 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
position degree : 93.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.20  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1375

rack travel mm : 4.00  
Rated speed rpm : 1225

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 9.30

Testing:

Rated speed rpm : 325  
rack travel mm : 9.80  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 510  
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.25  
Tolerance mm : +- 0.05

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm : +- 0.10

---

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.90  
Tolerance mm :  $\pm$  2.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 066 710  
Injection pump  
Pump designation : PES6P110A120RS3357  
EP type number : 0 412 106 754  
Governor  
Governor design. : RSV400...900P4A633  
Governor no. : 0 421 833 541

Cust. part No. : 3931255

Customer-spec. information

Customer : CDC  
Motor : 6CTA ELITE  
Power KW : 207.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

E21

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery blocking

°NW after s.o.d. : 7.75  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

CONTROL LEVER

control lever  
position degree : 102.0

RATED SPEED

rack travel mm : 12.30  
Rated speed rpm : 930  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 985  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1100

rack travel mm : 4.00  
Rated speed rpm : 995

LOW IDLE

control lever  
position degree : 77.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.70

Testing:

Rated speed rpm : 400  
rack travel mm : 6.20  
Tolerance mm : ± 0.20

rack travel mm : 2.00  
Rated speed rpm : 500  
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : < 19.00

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

---

BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 930  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
 Test oil : ISO 4113  
 Combination No. : 0 402 076 778  
 Injection pump  
 Pump designation : PES6P120A72ORS3352  
 EP type number : 0 412 026 780  
 Governor  
 Governor design. : RSV400...1100P2A599  
 : -1  
 Governor no. : 0 421 833 486  
 Cust. part No. : RE62642

Customer-spec. information  
 Customer : DEERE  
 Motor : 6081AF001  
 Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 457 413 010  
 Inlet press. bar : 2.0  
 Test nozzle holde  
 assembly : 1 688 901 101  
 Opening pressure  
 bar : 208.5  
 Tolerance bar : ± 1.5  
 Test lines : 1 680 750 015  
 Outside diameter : 6.0

E24

x inside diameter : 3.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
 Tolerance bar : ± 1.0  
 Prestroke mm : 3.60  
 Tolerance mm : ± 0.05  
 Check  
 tolerance mm : ± 0.10  
 Rack travel in mm : 10.50  
 Tolerance mm : ± 1.50  
 Firing order : 1- 5- 3- 6- 2-  
 : 4  
 Phasing : 0-60-120-180-240  
 : -300  
 Tolerance : ± 0.30  
 Check  
 tolerance °NW : ± 0.75  
 Start of delivery mark  
 °NW after s.o.d. : 8.00  
 Tolerance : ± 0.50  
 Check  
 tolerance °NW : ± 0.75  
 Barrel no. : 1  
 Beginning of delivery differende  
 and maximum rack  
 travel : 14.00  
 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100



---

Rack travel in mm : 12.45  
Tolerance mm : +- 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 4.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

E25

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.45  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1205  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1215

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.20

Testing:

Rated speed rpm : 400  
rack travel mm : 5.70  
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.45  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 12.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.80  
Tolerance mm : ± 0.20

Rated speed rpm : 500  
Pressure hPa : 960  
rack travel mm : 11.70  
Tolerance mm : ± 0.20

Pressure hPa : 475  
rack travel mm : 9.80  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check speed 1/min : > 80

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.45  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 076 782  
Injection pump  
Pump designation : PES6P120A720RS3352  
EP type number : 0 412 026 780  
Governor  
Governor design. : RSV400...1100P2A599  
: -3  
Governor no. : 0 421 833 497  
Cust. part No. : RE63766

Customer-spec. information  
Customer : DEERE  
Motor : 6081AF001  
Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 457 413 010  
Inlet press. bar : 2.0  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

E27

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
°NW after s.o.d. : 8.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.45  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 4.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

E28

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.45  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1205  
Tolerance 1/min : + 5

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1215

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.20

Testing:

Rated speed rpm : 400  
rack travel mm : 5.70  
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.45  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 12.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.80  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 960  
rack travel mm : 11.70  
Tolerance mm : ± 0.20

Pressure hPa : 475  
rack travel mm : 9.80  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.45  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
 Test oil : ISO 4113  
 Combination No. : 0 402 076 785  
 Injection pump  
 Pump designation : PES6P120A720RS3352  
 EP type number : 0 412 026 780  
 Governor  
 Governor design. : RSV400...750P4A611  
 : -1  
 Governor no. : 0 421 833 514  
 Cust. part No. : RE66449

Customer-spec. information  
 Customer : DEERE  
 Motor : 6081AF001  
 Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 457 413 010  
 Inlet press. bar : 2.0  
 Test nozzle holde  
 assembly : 1 688 901 101  
 Opening pressure  
 bar : 208.5  
 Tolerance bar : ± 1.5  
 Test Lines : 1 680 750 015  
 Outside diameter : 6.0

F02

x inside diameter : 3.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
 Tolerance bar : ± 1.0  
 Prestroke mm : 3.60  
 Tolerance mm : ± 0.05  
 Check  
 tolerance mm : ± 0.10  
 Rack travel in mm : 10.50  
 Tolerance mm : ± 1.50  
 Firing order : 1- 5- 3- 6- 2-  
 : 4  
 Phasing : 0-60-120-180-240  
 : -300  
 Tolerance : ± 0.30  
 Check  
 tolerance °NW : ± 0.75  
 Start of delivery mark  
 °NW after s.o.d. : 7.00  
 Tolerance : ± 0.50  
 Check  
 tolerance °NW : ± 0.75  
 Barrel no. : 1  
 Beginning of delivery differende  
 and maximum rack  
 travel : 14.00  
 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 13.90  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

F03

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 90.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.90  
Rated speed rpm : 760  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 795  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 950

rack travel mm : 4.00  
Rated speed rpm : 830

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.40

Testing:

Rated speed rpm : 400  
rack travel mm : 5.90  
Tolerance mm : ± 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80

---

#### BREAKAWAY

Rack travel in mm : 12.90  
Rated speed rpm : 760  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 786  
  
Injection pump  
Pump designation : PES6P120A720RS3352  
EP type number : 0 412 026 780  
  
Governor  
Governor design. : RSV400...750P4A606  
: -1  
Governor no. : 0 421 833 515  
  
Cust. part No. : RE66456

Customer-spec. information  
Customer : DEERE  
Motor : 6081AF001  
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 457 413 010  
  
Inlet press. bar : 2.0  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

F05

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : +- 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75  
  
Start of delivery mark  
  
°NW after s.o.d. : 7.00  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 13.90  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

F06

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 90.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.90  
Rated speed rpm : 760  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 795  
Tolerance 1/min : + 5

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 950

rack travel mm : 4.00  
Rated speed rpm : 830

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.40

Testing:

Rated speed rpm : 400  
rack travel mm : 5.90  
Tolerance mm : + 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.90  
Tolerance mm : + 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80

---

#### BREAKAWAY

Rack travel in mm : 12.90  
Rated speed rpm : 760  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 25.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 736 868  
Injection pump  
Pump designation : PES6P120A120RS7351  
EP type number : 0 412 726 922  
Governor  
Governor design. : RQV350...1100PA1173K  
Governor no. : 0 421 815 439

Cust. part No. : 3928157

Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

F08

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 6.25  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 15.25  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 243.5
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 24.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 5.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve travel mm	: 2.11
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1159
guide sleeve travel mm	: 7.79
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 726
guide sleeve travel mm	: 4.80
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 420
guide sleeve travel mm	: 3.10
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1640
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 243.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 119.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 13.60
Rated speed rpm	: 1255
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1400
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever position degree	: 71.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 6.60
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 275
CRT mm min.	: > 7.80

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 15.25  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 13.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1200  
rack travel mm : 14.70  
Tolerance mm : ± 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.20  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 715  
rack travel mm : 13.50  
Tolerance mm : ± 0.20

Pressure hPa : 335  
rack travel mm : 10.60  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 1255  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 872  
  
Injection pump  
Pump designation : PES6P120A120RS7370  
EP type number : 0 412 726 924  
  
Governor  
Governor design. : RQV350...1100PA1177K  
Governor no. : 0 421 815 443

Cust. part No. : 3928154

---

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.0

---

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : +- 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : +- 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 5.50  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75  
  
Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1000  
  
Rack travel in mm : 13.85  
Tolerance mm : +- 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 120.0

tolerance degree : ± 6.0

RATED SPEED

F13

rack travel mm : 12.40

Rated speed rpm : 1165

Tolerance 1/min : ± 15

rack travel mm : 4.00

Rated speed rpm : 1300

Tolerance 1/min : ± 5

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 1400

LOW IDLE

control lever  
position degree : 68.0

tolerance degree : ± 6.0

Testing:

Rated speed rpm : 350

rack travel mm : 6.50

Tolerance mm : ± 0.20

Rated speed rpm : 275

CRT mm min. : > 8.10

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1000

rack travel mm : 13.85

Tolerance mm : ± 0.05

Rated speed rpm : 650

rack travel mm : 13.30

Tolerance mm : ± 0.20

Rated speed rpm : 1100

rack travel mm : 13.50

Tolerance mm : ± 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000

Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 9.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1000

Pressure hPa : 765  
rack travel mm : 13.30  
Tolerance mm : ± 0.20

Pressure hPa : 325  
rack travel mm : 10.65  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 208.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 96.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 12.40

F14

Rated speed rpm : 1165  
Tolerance 1/min : ± 15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

---

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 5.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 736 873  
Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 924  
Governor  
Governor design. : RQV350...1100PA1178K  
Governor no. : 0 421 815 444

Cust. part No. : 3928152

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

F15

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75  
Start of delivery blocking  
°NW after s.o.d. : 5.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 13.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 199.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 2.11  
Tolerance mm : ± 0.20

Rated speed rpm : 1159  
guide sleeve  
travel mm : 7.79  
Tolerance mm : ± 0.15

Rated speed rpm : 726  
guide sleeve  
travel mm : 4.80  
Tolerance mm : ± 0.20

Rated speed rpm : 420  
guide sleeve  
travel mm : 3.10  
Tolerance mm : ± 0.25

Rated speed rpm : 1640  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 199.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 115.0  
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 11.90  
Rated speed rpm : 1265  
Tolerance 1/min : ± 15

rack travel mm : 4.00  
Rated speed rpm : 1385  
Tolerance 1/min : ± 5

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1450

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.40  
Tolerance mm : ± 0.20

Rated speed rpm : 275  
CRT mm min. : > 7.90

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 12.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1200  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.70  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 520  
rack travel mm : 11.80  
Tolerance mm : ± 0.20

Pressure hPa : 255  
rack travel mm : 9.75  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200

F17

Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1265  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 905  
  
Injection pump  
Pump designation : PES6P120A120RS7416  
EP type number : 0 412 726 959  
  
Governor  
Governor design. : RQV400...1250PA1160  
                  : -3K  
Governor no. : 0 421 815 513  
  
Cust. part No. : 3928145

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 6.25  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250  
  
Rack travel in mm : 13.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
guide sleeve  
travel mm : 1.44  
Tolerance mm : ± 0.20

Rated speed rpm : 1329  
guide sleeve  
travel mm : 7.83  
Tolerance mm : ± 0.15

Rated speed rpm : 939  
guide sleeve  
travel mm : 5.18  
Tolerance mm : ± 0.25

Rated speed rpm : 640  
guide sleeve  
travel mm : 3.56  
Tolerance mm : ± 0.25

Rated speed rpm : 1690  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

CONTROL LEVER

control lever  
position degree : 117.0  
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 12.30  
Rated speed rpm : 1325  
Tolerance 1/min : ± 15

rack travel mm : 4.00  
Rated speed rpm : 1480  
Tolerance 1/min : ± 5

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

---

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 420  
rack travel mm : 6.00  
Tolerance mm : ± 0.20

Rated speed rpm : 400

CRT mm min. : > 5.80



Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 12.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500  
rack travel mm : 11.60  
Tolerance mm : ± 0.20

Rated speed rpm : 900  
rack travel mm : 12.40  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 350  
rack travel mm : 12.70  
Tolerance mm : ± 0.30

Pressure hPa : 265  
rack travel mm : 11.80  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1325  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 776 822  
Injection pump  
Pump designation : PES6P120A720RS7382  
EP type number : 0 412 726 943  
Governor  
Governor design. : RSV400...900P4A608  
Governor no. : 0 421 833 493

Cust. part No. : RE64214

Customer-spec. information  
Customer : DEERE  
Motor : 6081 AF001  
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 079  
Inlet press. bar : 2.0  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 850

---

Rack travel in mm : 12.85  
Tolerance mm : +- 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 5.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

F24

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.85  
Rated speed rpm : 920  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 955  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1025

rack travel mm : 4.00  
Rated speed rpm : 970

---

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.00

Testing:

Rated speed rpm : 400  
rack travel mm : 5.50  
Tolerance mm : +- 0.10

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 12.85  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

BREAKAWAY

Rack travel in mm : 11.85  
Rated speed rpm : 920  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 776 823  
Injection pump  
Pump designation : PES6P120A720RS7382  
EP type number : 0 412 726 943

Governor  
Governor design. : RSV400...900P4A609  
Governor no. : 0 421 833 494

Cust. part No. : RE64162

Customer-spec. information  
Customer : DEERE  
Motor : 6081 AF001  
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 079  
Inlet press. bar : 2.0  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 850

---

Rack travel in mm : 12.85  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 5.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.85  
Rated speed rpm : 920  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 955  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1025

rack travel mm : 4.00  
Rated speed rpm : 970

---

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.00

Testing:

Rated speed rpm : 400  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 12.85  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

BREAKAWAY

Rack travel in mm : 11.85  
Rated speed rpm : 920  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 776 832  
  
Injection pump  
Pump designation : PES6P120A72ORS7382  
EP type number : 0 412 726 943  
  
Governor  
Governor design. : RSV400...750P4A609  
: -1  
Governor no. : 0 421 833 518  
  
Cust. part No. : RE66450

Customer-spec. information  
Customer : DEERE  
Motor : 6081 AF001  
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 079  
  
Inlet press. bar : 2.0  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

G01

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 12.90  
Tolerance mm : +- 0.05

---

Del. quantity  
cm3/1000 strokes : 223.0

---

Tolerance  
cm3/1000 strokes : +- 1.0

---

Check tolerance  
cm3/1000S. : +- 4.0

---

Spread  
Tolerance  
cm3/1000 strokes : 5.0

---

Check tolerance  
cm3/1000S. : 9.0

---

Del. quantity  
cm3/1000 strokes : 26.5

Tolerance  
cm3/1000 strokes : +- 3.0

Check tolerance  
cm3/1000S. : +- 5.0

Spread  
Tolerance  
cm3/1000 strokes : 8.0

Check tolerance  
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm3/1000 strokes : 223.0  
Tolerance  
cm3/1000 strokes : +- 1.0

G02

Check tolerance  
cm3/1000S. : +- 4.0  
Spread  
Tolerance  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 91.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.90  
Rated speed rpm : 760  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 790  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 900

rack travel mm : 4.00  
Rated speed rpm : 820

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.30

Testing:

Rated speed rpm : 400  
rack travel mm : 5.80  
Tolerance mm : +- 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80

---

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 760  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 776 833  
Injection pump  
Pump designation : PES6P120A720RS7382  
EP type number : 0 412 726 943  
Governor  
Governor design. : RSV400...750P4A608  
: -1  
Governor no. : 0 421 833 519  
Cust. part No. : RE66457

Customer-spec. information  
Customer : DEERE  
Motor : 6081 AF001  
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 079  
Inlet press. bar : 2.0  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

G04

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 12.90  
Tolerance mm : +- 0.05

---

Del. quantity  
cm3/1000 strokes : 223.0

---

Tolerance  
cm3/1000 strokes : +- 1.0

---

Check tolerance  
cm3/1000S. : +- 4.0

---

Spread  
Tolerance  
cm3/1000 strokes : 5.0

---

Check tolerance  
cm3/1000S. : 9.0

---

Del. quantity  
cm3/1000 strokes : 26.5  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm3/1000 strokes : 223.0  
Tolerance  
cm3/1000 strokes : +- 1.0

G05

Check tolerance  
cm3/1000S. : +- 4.0  
Spread  
Tolerance  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 91.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.90  
Rated speed rpm : 760  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 790  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 900

rack travel mm : 4.00  
Rated speed rpm : 820

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.30

Testing:

Rated speed rpm : 400  
rack travel mm : 5.80  
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.90  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 760  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 074 089  
Injection pump  
Pump designation : PES4M55C32ORS175  
EP type number : 0 410 054 957  
Governor  
Governor design. : RSV350...1500M0C353  
: -10  
Governor no. : 0 420 033 046  
Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM601 (2,3L)  
Power KW : 44.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holde  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0

G07

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 21.00  
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1480

Rack travel in mm : 11.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 350

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : ± 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480

Ref. pressure  
ALDA / ADA hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

RATED SPEED

rack travel mm : 1.00  
Tolerance mm : ± 0.70  
Rated speed rpm : 1750

LOW IDLE

Load pick-up

Rated speed rpm : 100

CRT mm min. : > 20.10

rack travel mm : 5.40  
Rated speed rpm : 350

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1480  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

Rated speed rpm : 1100  
rack travel mm : 12.60  
Tolerance mm : ± 0.10

Rated speed rpm : 1350  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -

Rated speed rpm : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.7

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : -

Rated speed rpm : 1350

Spread  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0



---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 6.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000s. : 1.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 074 878  
  
Injection pump  
Pump designation : PES4M55C320RS188  
EP type number : 0 410 054 935  
  
Governor  
Governor design. : RSF400/2000M82  
Governor no. : 0 420 021 283

Cust. part No. :

Customer-spec. information  
Customer : DPICO  
Motor : OM601-2.3L  
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 21.00  
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 400  
Rack travel in mm : 4.90  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

-----  
IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : +- 0.25

-----  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

-----  
RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 7.60  
Rated speed rpm : 2250  
rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 2550

-----  
SET IDLE CONTROL LEVER POSITION

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Rated speed rpm : 1000  
CRT mm max. : 1.45

-----  
LOW IDLE

control lever  
position degree : 12.5  
tolerance degree : +- 2.0

Setting point w/out bumper spring  
Rated speed rpm : 400  
rack travel mm : 4.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500  
rack travel mm : 3.40  
Tolerance mm : +- 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 13.00  
Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 4.90  
Rated speed rpm : 400

-----  
TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : +- 0.05  
Rated speed rpm : 2000  
rack travel mm : 12.15  
Tolerance mm : +- 0.10

-----  
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : +- 0.10

-----  
MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : ± 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : ± 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.3  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

Rated speed rpm : 400  
rack travel mm : 4.90  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 12.5  
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 8.70  
Tolerance mm : ± 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 12.5  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 074 879  
Injection pump  
Pump designation : PES4M55C320RS188  
EP type number : 0 410 054 935  
Governor  
Governor design. : RSF400/2000M80  
Governor no. : 0 420 021 281

Cust. part No. :

---

Customer-spec. information  
Customer : DPICO  
Motor : 0M601-2.3L  
Power KW : 58.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holde  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

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## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance \*NW : ± 0.30  
Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 1000

---

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 400  
Rack travel in mm : 4.90  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

\_\_\_\_\_

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

\_\_\_\_\_

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

\_\_\_\_\_

RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 7.40  
Rated speed rpm : 2250  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2550

\_\_\_\_\_

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

\_\_\_\_\_

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 400  
rack travel mm : 4.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500  
rack travel mm : 3.40  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 12.30

Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 4.90  
Rated speed rpm : 400

\_\_\_\_\_

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : ± 0.05  
Rated speed rpm : 2000  
rack travel mm : 12.15  
Tolerance mm : ± 0.10

\_\_\_\_\_

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : -

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 4.90  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spread  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 8.70  
Tolerance mm : +- 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
 Test oil : ISO 4113  
 Combination No. : 0 400 074 882  
 Injection pump  
 Pump designation : PES4M55C32ORS184  
 EP type number : 0 410 054 938  
 Governor  
 Governor design. : RSF375/1700M77-1  
 Governor no. : 0 420 021 275

Cust. part No. :

Customer-spec. information  
 Customer : MB-PKW  
 Motor : OM601-2.3L  
 Power KW : 50.0

TEST BENCH REQUIREMENTS

Test oil inlet  
 temp. °C : 40  
 Tolerance °C : + 2.0  
 Overflow valve : 1 469 990 351  
 Inlet press. bar : 1.0  
 Test nozzle holde  
 assembly : 1 688 901 111  
 Opening pressure  
 bar : 148.5  
 Tolerance bar : + 1.5  
 Test Lines : 1 680 750 014  
 Outside diameter : 6.0  
 x inside diameter : 2.0  
 x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
 Tolerance bar : + 1.0

Prestroke mm : 2.05  
 Tolerance mm : + 0.05  
 Check  
 tolerance mm : + 0.10

Rack travel in mm : 21.00  
 Tolerance mm : + 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 16.50  
 Tolerance : + 0.20  
 Check  
 tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1700

Rack travel in mm : 11.50  
 Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 39.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 375  
Rack travel in mm : 5.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

—————  
IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

—————  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1700  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

—————  
RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 6.70  
Rated speed rpm : 2000  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2300

—————  
SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

—————  
LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 375  
rack travel mm : 5.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 3.60  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : > 10.00

Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.00  
Rated speed rpm : 375

—————  
TORQUE CONTROL

Rated speed rpm : 1700  
rack travel mm : 11.50  
Tolerance mm : ± 0.05  
Rated speed rpm : 1000  
rack travel mm : 11.50  
Tolerance mm : ± 0.20

—————  
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : ± 0.10

—————  
MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : ± 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

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Rated speed rpm : 375  
rack travel mm : 5.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30  
Tolerance mm : ± 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 074 884  
  
Injection pump  
Pump designation : PES4M55C320RS184  
EP type number : 0 410 054 938  
  
Governor  
Governor design. : RSF375/1900M77  
Governor no. : 0 420 021 273

Cust. part No. :

Customer-spec. information  
Customer : MB-PKW  
Motor : OM601-2.3L  
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test Lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 16.50  
Tolerance : ± 0.20  
Check  
tolerance \*NW : ± 0.30  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1850  
  
Rack travel in mm : 12.30  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 1.5  
  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 375  
Rack travel in mm : 5.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

—————  
IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

—————  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1850  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

—————  
RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 5.60  
Rated speed rpm : 2200  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2400

—————  
SET IDLE CONTROL LEVER POSITION

G22

Rated speed rpm : 1000  
CRT mm max. : 1.45

—————  
LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 375  
rack travel mm : 5.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 3.70  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : > 10.20

Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.00  
Rated speed rpm : 375

—————  
TORQUE CONTROL

Rated speed rpm : 1850  
rack travel mm : 12.30  
Tolerance mm : ± 0.05  
Rated speed rpm : 1000  
rack travel mm : 12.30  
Tolerance mm : ± 0.10

—————  
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : ± 0.10

—————  
MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : +- 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : +- 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.2  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

G23

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30  
Tolerance mm : +- 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

#### TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

---

End of test specification sheet





# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 074 885  
Injection pump  
Pump designation : PES4M55C320RS167  
EP type number : 0 410 054 960  
Governor  
Governor design. : RSF375/2000M56-14  
Governor no. : 0 420 021 271

Cust. part No. :

---

Customer-spec. information  
Customer : DPICO  
Motor : OM601-2.3L  
Power KW : 58.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holde  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

G25

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
Barrel no. : 1

---

## BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 12.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 375  
Rack travel in mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

—————  
IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

—————  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

—————  
RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 8.90  
Rated speed rpm : 2200  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2550

—————  
SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

—————  
LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 375  
rack travel mm : 5.20

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 3.90  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 11.50

Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.20  
Rated speed rpm : 375

—————  
TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : ± 0.05

Rated speed rpm : 1800  
rack travel mm : 11.90  
Tolerance mm : ± 0.10

Rated speed rpm : 2000  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

—————  
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 940

rack travel mm : -0.10  
Tolerance mm : ± 0.10

#### MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : ± 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2000  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : ± 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30  
Tolerance mm : ± 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Vacuum hPa : 400.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 074 886  
  
Injection pump  
Pump designation : PES4M55C32ORS167  
EP type number : 0 410 054 960  
  
Governor  
Governor design. : RSF375/2000M55-7  
Governor no. : 0 420 021 268

Cust. part No. :

---

Customer-spec. information  
Customer : DPICO  
Motor : OM601-2.3L  
Power KW : 58.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

H01

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30

Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1000

---

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 375  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 8.90  
Rated speed rpm : 2200  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2550

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

H02

CRT mm max. : 1.45

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 3.90  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 11.50  
Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.20  
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : ± 0.05  
Rated speed rpm : 1800  
rack travel mm : 11.90  
Tolerance mm : ± 0.10  
Rated speed rpm : 2000  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 1800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2000  
Speed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : -

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : ± 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

Rated speed rpm : 375  
rack travel mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Speed

H03

Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 7.30  
Tolerance mm : ± 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

#### TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

---

End of test specification sheet





# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 074 889  
Injection pump  
Pump designation : PES4M55C320RS172  
EP type number : 0 410 054 958  
Governor  
Governor design. : RSF375/2300M75-2  
Governor no. : 0 420 021 166

Cust. part No. :

## Customer-spec. information

Customer : MB-PKW  
Motor : OM601-Mopf II  
Power KW : 53.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holde  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

H05

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 1.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

\*NW after s.o.d. : 17.00  
Tolerance : ± 0.20  
Check  
tolerance \*NW : ± 0.30  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900  
Rack travel in mm : 12.35  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 375

Rack travel in mm : 6.30  
Tolerance mm : +- 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

IDLE STAGE

Rack travel in mm : 6.50  
Tolerance mm : +- 0.10

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
position degree : 50.0

rack travel mm : 7.90  
Rated speed rpm : 2500

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 2950

---

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 900  
CRT mm max. : 1.45

---

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Setting point w/out bumper spring

Rated speed rpm : 375  
rack travel mm : 6.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 4.70  
Tolerance mm : +- 0.10

rack travel mm : 2.50  
Rated speed rpm : 670  
Tolerance 1/min : +- 50

Load pick-up

Rated speed rpm : 250  
CRT mm min. : > 11.00

Rated speed rpm : 900  
CRT mm max. : 1.45

rack travel mm : 6.30  
Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 12.35  
Tolerance mm : +- 0.05

Rated speed rpm : 1400  
rack travel mm : 12.05  
Tolerance mm : +- 0.10

Rated speed rpm : 2300  
rack travel mm : 11.40  
Tolerance mm : +- 0.10

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900  
Ref. pressure  
ALDA / ADA hPa : 950  
rack travel mm : -0.10  
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 900  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.60  
Tolerance mm : ± 0.10

Rated speed rpm : 900  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -2.00  
Tolerance mm : ± 0.20

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2300  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

H07

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 49.00

Grad : < 46.50

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Rated speed rpm : 425

Rack travel in mm : 8.90  
Tolerance mm : ± 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Vacuum hPa : 400.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

Rated speed rpm : 900  
rack travel mm : -1.70  
Tolerance mm : ± 0.15

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 075 920  
Injection pump  
Pump designation : PES5M55C320RS189  
EP type number : 0 410 055 953  
Governor  
Governor design. : RSF385/2000M83  
Governor no. : 0 420 021 284

Cust. part No. :

---

Customer-spec. information  
Customer : DPICO  
Motor : OM 602 2,9ltr  
Power KW : 70.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

H09

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 21.00  
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0  
 Rated speed rpm : 385  
 Rack travel in mm : 5.90  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 9.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

—————  
IDLE STAGE

Rack travel in mm : 6.25  
 Tolerance mm : ± 0.15

—————  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Ref. pressure  
 ALDA / ADA hPa : 1100  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 38.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 1.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

—————  
RATED SPEED

control lever  
 position degree : 50.0  
 rack travel mm : 7.60  
 Rated speed rpm : 2250  
 rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 2550

—————  
SET IDLE CONTROL LEVER POSITION

H10

Rated speed rpm : 1000  
 CRT mm max. : 1.45

—————  
LOW IDLE

control lever  
 position degree : 12.5  
 tolerance degree : ± 2.0

Setting point w/out bumper spring  
 Rated speed rpm : 385  
 rack travel mm : 5.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500  
 rack travel mm : 4.00  
 Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250

CRT mm min. : 13.00

Rated speed rpm : 1000

CRT mm max. : 1.45

rack travel mm : 5.90  
 Rated speed rpm : 385

—————  
TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 12.15  
 Tolerance mm : ± 0.05

Rated speed rpm : 2000  
 rack travel mm : 12.15  
 Tolerance mm : ± 0.10

—————  
ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
 Ref. pressure  
 ALDA / ADA hPa : 940  
 rack travel mm : -0.10  
 Tolerance mm : ± 0.10

—————  
MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : +- 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : +- 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2000  
Del. quantity  
cm3/1000 strokes : 41.5  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 2.0  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm3/1000 strokes : 60.3  
Tolerance  
cm3/1000 strokes : +- 4.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spreed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 6.0

---

#### LOW IDLE

Rated speed rpm : 385  
rack travel mm : 5.90  
Tolerance mm : +- 0.10  
Del. quantity  
cm3/1000 strokes : 9.5  
Check tolerance  
cm3/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm3/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 12.5  
tolerance degree : +- 2.0  
Rated speed rpm : 400  
Rack travel in mm : 8.90  
Tolerance mm : +- 0.80  
Del. quantity  
cm3/1000 strokes : 22.5  
Tolerance  
cm3/1000 strokes : +- 3.5  
Check tolerance  
cm3/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 12.5  
tolerance degree : +- 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 400 075 921  
Injection pump  
Pump designation : PES5M55C320RS189  
EP type number : 0 410 055 953  
Governor  
Governor design. : RSF385/2000M81  
Governor no. : 0 420 021 282

Cust. part No. :

---

Customer-spec. information  
Customer : DPICO  
Motor : OM 602 2,9ltr  
Power KW : 70.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holder  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

H13

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
Barrel no. : 1

---

## BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 12.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 1.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 385  
Rack travel in mm : 5.90  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

\_\_\_\_\_

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

\_\_\_\_\_

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

\_\_\_\_\_

RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 7.60  
Rated speed rpm : 2250  
rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2550

\_\_\_\_\_

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

\_\_\_\_\_

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 385  
rack travel mm : 5.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500  
rack travel mm : 4.00  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 12.00  
Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.90  
Rated speed rpm : 385

\_\_\_\_\_

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : ± 0.05  
Rated speed rpm : 2000  
rack travel mm : 12.15  
Tolerance mm : ± 0.10

\_\_\_\_\_

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : -

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Rated speed rpm : 385  
rack travel mm : 5.90  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Rated speed rpm : 400

Rack travel in mm : 8.90  
Tolerance mm : +- 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 075 923  
  
Injection pump  
Pump designation : PES5M55C320RS168  
EP type number : 0 410 055 978  
  
Governor  
Governor design. : RSF350/2000M55-8  
Governor no. : 0 420 021 269

Cust. part No. :

Customer-spec. information  
Customer : DPICO  
Motor : OM602-2.9L  
Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : +- 1.5  
  
Test Lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

H16

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 2.05  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 21.00  
Tolerance mm : +- 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 15.50  
Tolerance : +- 0.20  
Check  
tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5

Check tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0  
Rated speed rpm : 350  
Rack travel in mm : 5.30  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

-----  
IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : +- 0.25

-----  
FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

-----  
RATED SPEED

control lever  
position degree : 50.0  
rack travel mm : 8.90  
Rated speed rpm : 2200  
rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 2550

-----  
SET IDLE CONTROL LEVER POSITION

H17

Rated speed rpm : 1000  
CRT mm max. : 1.45

-----  
LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Setting point w/out bumper spring  
Rated speed rpm : 350  
rack travel mm : 5.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 4.10  
Tolerance mm : +- 0.10

Load pick-up

Rated speed rpm : 250  
CRT mm min. : 10.50  
Rated speed rpm : 1000  
CRT mm max. : 1.45  
rack travel mm : 5.30  
Rated speed rpm : 350

-----  
TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : +- 0.05  
Rated speed rpm : 1800  
rack travel mm : 12.00  
Tolerance mm : +- 0.10  
Rated speed rpm : 2000  
rack travel mm : 11.80  
Tolerance mm : +- 0.10

-----  
FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 1800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.8  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2000

Speed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : -

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8

H18

Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Speed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 47.00

Grad : < 44.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

Rated speed rpm : 400

Rack travel in mm : 6.10  
Tolerance mm : +- 0.80

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 14.0  
tolerance degree : +- 2.0

control lever  
position degree : 50.0

---

#### ADJUSTMENT

control lever  
position degree : 50.0

---

#### TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
Test oil : ISO 4113

Combination No. : 0 401 846 859

Injection pump  
Pump designation : PE6P120A320RS3196Q  
EP type number : 0 411 826 776

Governor  
Governor design. : RQV200/1100PA729-1  
Governor no. : 0 421 813 470

Cust. part No. : 394505

Customer-spec. information  
Customer : SCANIA  
Motor : DS9 08

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper  
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.05  
Tolerance mm : ± 0.05



Del. quantity cm <sup>3</sup> /1000 strokes	:	125.0
<hr/>		
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	8.0
Rated speed rpm	:	225
Rack travel in mm	:	5.20
Tolerance mm	:	+ 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	:	24.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	3.0
Check tolerance cm <sup>3</sup> /1000S.	:	6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	225
guide sleeve travel mm	:	0.65
Tolerance mm	:	+ 0.20
Rated speed rpm	:	1155
guide sleeve travel mm	:	8.50
Tolerance mm	:	+ 0.15
Rated speed rpm	:	719
guide sleeve travel mm	:	5.54
Tolerance mm	:	+ 0.25
Rated speed rpm	:	430
guide sleeve travel mm	:	3.90
Tolerance mm	:	+ 0.25
Rated speed rpm	:	1440

guide sleeve travel mm	:	11.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	1315
Rack travel in mm	:	9.00
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure hPa	:	-
Del. quantity cm <sup>3</sup> /1000 strokes	:	125.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	8.0

CONTROL LEVER

control lever position degree	:	59.0
tolerance degree	:	+ 4.0
control lever position degree	:	115.0
tolerance degree	:	+ 4.0

RATED SPEED

rack travel mm	:	9.00
Rated speed rpm	:	1145
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
Rated speed rpm	:	1250
Tolerance 1/min	:	+ 15
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1350

LOW IDLE

control lever  
position degree : 63.0  
tolerance degree : ± 4.0

control lever  
position degree : 9.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225  
rack travel mm : 5.20  
Tolerance mm : ± 0.10

Rated speed rpm : 125  
CRT mm min. : > 6.20

Rated speed rpm : 330

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.05  
Tolerance mm : ± 0.05

Rated speed rpm : 1100  
rack travel mm : 10.05  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

BREAKAWAY

Rack travel in mm : 9.00  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 355.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 225  
rack travel mm : 5.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.96  
Test oil : ISO 4113  
Combination No. : 0 401 856 700

Injection pump  
Pump designation : PE6P110A721RS3101  
EP type number : 0 411 816 725

Governor  
Governor design. : RQ300/1200PA412  
Governor no. : 0 421 801 172

Cust. part No. :

Customer-spec. information  
Customer : SNF  
Motor : WD615.67  
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1  
  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
  
Test nozzle holder assembly : 0 681 343 009  
  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089  
  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.35  
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05  
Tolerance mm : ± 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 163.0

Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
<hr/>	
Check tolerance	
cm3/1000S.	: 7.5
<hr/>	
Rated speed rpm :	300
<hr/>	
Rack travel in mm :	6.00
Tolerance mm :	+ 0.20
Del. quantity	
cm3/1000 strokes :	15.0
Tolerance	
cm3/1000 strokes :	+ 3.0
Check tolerance	
cm3/1000S.	: + 5.5
Spreed	
Tolerance	
cm3/1000 strokes :	4.5
Check tolerance	
cm3/1000S.	: 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm :	600
<hr/>	
Rack travel in mm :	16.00
Tolerance mm :	+ 0.60

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1200
Aneroid pressure	
hPa :	700
Del. quantity	
cm3/1000 strokes :	163.0
Tolerance	
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
Check tolerance	
cm3/1000S.	: 7.5

---

CONTROL LEVER

control lever	
position degree :	40.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.00
Rated speed rpm :	1253
Tolerance 1/min :	+ 8
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1340
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.75
Tolerance mm :	+ 0.75
Rated speed rpm :	1450

---

LOW IDLE

control lever	
position degree :	14.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
rack travel mm :	2.00
Rated speed rpm :	425
Tolerance 1/min :	+ 20
<hr/>	
Rated speed rpm :	100
CRT mm min. :	> 7.50

---

TORQUE CONTROL

Dimension a mm :	0.35
Rated speed rpm :	1200
rack travel mm :	12.05
Tolerance mm :	+ 0.05
<hr/>	
Rated speed rpm :	700
rack travel mm :	12.45
Tolerance mm :	+ 0.05
<hr/>	
Rated speed rpm :	1075
rack travel mm :	12.30
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	600
rack travel mm :	12.75

Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.20  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 420  
rack travel mm : 11.55  
Tolerance mm : ± 0.05

Pressure hPa : 330  
rack travel mm : 10.35  
Tolerance mm : ± 0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1253  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 046 874  
  
Injection pump  
Pump designation : PES6P120A720RS3360  
EP type number : 0 412 026 785  
  
Governor  
Governor design. : RQV300...1100PA1254K  
Governor no. : 0 421 815 485

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8360.46.4107  
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity min. l/h : 105  
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.15  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 14.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark

Check tolerance °NW : ± 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.05  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.80  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.68  
Tolerance mm : +- 0.20

Rated speed rpm : 1156  
guide sleeve  
travel mm : 9.00  
Tolerance mm : +- 0.15

Rated speed rpm : 380  
guide sleeve  
travel mm : 3.51  
Tolerance mm : +- 0.25

Rated speed rpm : 1450

guide sleeve  
travel mm : 13.50  
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1325

Rack travel in mm : 10.00  
Tolerance mm : +- 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure

hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 116.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.00  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1260  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1400

LOW IDLE

control lever  
position degree : 61.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.60  
Tolerance mm : ± 0.10

Rated speed rpm : 225  
CRT mm min. : > 8.10  
Rated speed rpm : 330

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.05  
Tolerance mm : ± 0.05

Rated speed rpm : 850  
rack travel mm : 14.20  
Tolerance mm : ± 0.15

Rated speed rpm : 700  
rack travel mm : 13.55  
Tolerance mm : ± 0.15

Rated speed rpm : 500  
rack travel mm : 13.30  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 850  
Pressure hPa : 1200  
rack travel mm : 14.20  
Tolerance mm : ± 0.15

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 850  
rack travel mm : 10.80  
Tolerance mm : ± 0.20

Rated speed rpm : 850

Pressure hPa : 640  
rack travel mm : 13.10  
Tolerance mm : ± 0.20

Pressure hPa : 380  
rack travel mm : 11.60  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 200  
Rated speed rpm : < 220

Check  
speed 1/min : > 180  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 182.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.30



Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.80  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 046 875  
Injection pump  
Pump designation : PES6P110A320RS3329Z  
EP type number : 0 412 016 744  
Governor  
Governor design. : RQV325...1250PA1251  
Governor no. : 0 421 814 164

Cust. part No. : 1309376/0

Customer-spec. information  
Customer : DAF  
Motor : NS156M  
Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 160  
Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.85  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark  
Tolerance : ± 0.10  
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 144.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 7.5
Rated speed rpm	: 325
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 26.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.5
Check tolerance cm <sup>3</sup> /1000S.	: ± 5.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 12.0
Check tolerance cm <sup>3</sup> /1000S.	: 15.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve travel mm	: 1.25
Tolerance mm	: ± 0.20
Rated speed rpm	: 1298
guide sleeve travel mm	: 10.25
Tolerance mm	: ± 0.15
Rated speed rpm	: 863
guide sleeve travel mm	: 5.41
Tolerance mm	: ± 0.25
Rated speed rpm	: 520
guide sleeve travel mm	: 3.02
Tolerance mm	: ± 0.25
Rated speed rpm	: 1510

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guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1370
Rack travel in mm	: 10.85
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 144.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 7.5

CONTROL LEVER

control lever position degree	: 123.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 10.85
Rated speed rpm	: 1285
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1360
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever position degree	: 76.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 6.00

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

Rated speed rpm : 1250  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1500  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 7.00  
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 370  
rack travel mm : 10.75  
Tolerance mm : ± 0.05

Pressure hPa : 200  
rack travel mm : 8.40  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 98.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

BREAKAWAY

Rack travel in mm : 10.85  
Rated speed rpm : 1285  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 5.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.96  
 Test oil : ISO 4113  
 Combination No. : 0 402 046 876  
 Injection pump  
 Pump designation : PES6P110A32ORS3329Y  
 EP type number : 0 412 016 756  
 Governor  
 Governor design. : RQV325...1250PA1251  
 Governor no. : 0 421 814 164  
 Cust. part No. : 1309375/0

Customer-spec. information  
 Customer : DAF  
 Motor : NS133M  
 Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 417 413 000  
 Inlet press. bar : 1.5  
 Tolerance bar : ± 0.1  
 Overflow quantity  
 min. l/h : 160  
 Tolerance l/h : ± 20.0  
 Test nozzle holde  
 assembly : 1 688 901 101  
 Opening pressure  
 bar : 208.5  
 Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
 Outside diameter : 6.0  
 x inside diameter : 2.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
 Tolerance bar : ± 1.0  
 Prestroke mm : 4.85  
 Tolerance mm : ± 0.05  
 Check  
 tolerance mm : ± 0.10  
 Rack travel in mm : 20.50  
 Tolerance mm : ± 0.50  
 Firing order : 1- 5- 3- 6- 2-  
 : 4  
 Phasing : 0-60-120-180-240  
 : -300  
 Tolerance : ± 0.30  
 Check  
 tolerance °NW : ± 0.50  
 Start of delivery mark  
 Tolerance : ± 0.10  
 Check  
 tolerance °NW : ± 0.75  
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000  
 Rack travel in mm : 11.85  
 Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 325

Rack travel in mm : 5.00  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 1.25  
Tolerance mm : ± 0.20

Rated speed rpm : 1298  
guide sleeve  
travel mm : 10.25  
Tolerance mm : ± 0.15

Rated speed rpm : 863  
guide sleeve  
travel mm : 5.41  
Tolerance mm : ± 0.25

Rated speed rpm : 520  
guide sleeve  
travel mm : 3.02  
Tolerance mm : ± 0.25

Rated speed rpm : 1510

guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1370

Rack travel in mm : 10.85  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

CONTROL LEVER

control lever  
position degree : 123.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.85  
Rated speed rpm : 1285  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1360  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1500

LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 225  
CRT mm min. : > 6.00

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

Rated speed rpm : 1250  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1500  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 6.40  
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 310  
rack travel mm : 10.55  
Tolerance mm : ± 0.05

Pressure hPa : 130  
rack travel mm : 7.85  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 147.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

BREAKAWAY

Rack travel in mm : 10.85  
Rated speed rpm : 1285  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 5.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 742  
  
Injection pump  
Pump designation : PE6P120A320LS7837-2  
EP type number : 0 412 626 943

Governor  
Governor design. : RQ300/1100PA1272  
Governor no. : 0 421 801 804

Cust. part No. : 0270743002

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.60

Rack travel in mm : 12.60

Tolerance mm : + 0.05  
 Tolerance mm : + 0.05  


---

 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 193.5  


---

 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.0  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0  


---

 Rated speed rpm : 300  


---

 Rack travel in mm : 6.00  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.94  
 Tolerance mm : + 0.20  


---

 Rated speed rpm : 1153  
 guide sleeve  
 travel mm : 6.37  
 Tolerance mm : + 0.15  


---

 Rated speed rpm : 1100  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + 0.10  


---

 Rated speed rpm : 431  
 guide sleeve  
 travel mm : 4.71

Tolerance mm : + 0.10  


---

 Rated speed rpm : 570  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + 0.10  


---

 Rated speed rpm : 1350  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 650  


---

 Rack travel in mm : 20.00  
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 193.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

CONTROL LEVER

control lever  
 position degree : 94.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.80  
 Rated speed rpm : 1140  
 Tolerance 1/min : + 8  


---

 rack travel mm : 4.00  
 Rated speed rpm : 1250  
 Tolerance 1/min : + 15  


---

 rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 9.00

---

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 12.60  
Tolerance mm : +- 0.05

Rated speed rpm : 1100  
rack travel mm : 13.70  
Tolerance mm : +- 0.10

Rated speed rpm : 700  
rack travel mm : 13.70  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 200  
rack travel mm : -2.00  
Tolerance mm : +- 0.05

Pressure hPa : 350  
rack travel mm : -0.80  
Tolerance mm : +- 0.15

Pressure hPa : 850  
rack travel mm : 0.50  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 219.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 214.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 1140  
Tolerance 1/min : +- 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113

Combination No. : 0 402 678 822

Injection pump  
Pump designation : PE8P120A320LS7840-2  
EP type number : 0 412 628 873

Governor  
Governor design. : RSV350...1050POA535  
: -10  
Governor no. : 0 421 833 395

Cust. part No. : 0220743002

Customer-spec. information

Customer : MB-NFZ  
Motor : OM 442 A  
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance \*NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 12.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0

Tolerance  
 cm3/1000 strokes : + 1.0

---

Check tolerance  
 cm3/1000S. : + 4.0

---

Spreed  
 Tolerance  
 cm3/1000 strokes : 6.0

---

Check tolerance  
 cm3/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.40  
 Tolerance mm : + 0.30

Del. quantity  
 cm3/1000 strokes : 13.0

Tolerance  
 cm3/1000 strokes : + 3.0

Check tolerance  
 cm3/1000S. : + 6.0

Spreed  
 Tolerance  
 cm3/1000 strokes : 8.0

Check tolerance  
 cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + 0.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030

Aneroid pressure  
 hPa : 1200

Del. quantity  
 cm3/1000 strokes : 194.0

Tolerance  
 cm3/1000 strokes : + 1.0

Check tolerance  
 cm3/1000S. : + 4.0

Spreed  
 Tolerance  
 cm3/1000 strokes : 6.0

Check tolerance  
 cm3/1000S. : 9.0

---

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

---

LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
 rack travel mm : 5.40  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 415  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100  
 rack travel mm : 2.00

---

TORQUE CONTROL

Rated speed rpm : 1030  
 rack travel mm : 12.65  
 Tolerance mm : + 0.05

Rated speed rpm : 700  
 rack travel mm : 13.20  
 Tolerance mm : + 0.10

Rated speed rpm : 900  
 rack travel mm : 12.90  
 Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
 COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 0.45  
Tolerance mm : ± 0.05

Pressure hPa : 700  
rack travel mm : 1.70  
Tolerance mm : ± 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.02.96  
Test oil : ISO 4113  
Combination No. : 0 402 946 014  
Injection pump  
Pump designation : PES6P120A720LS8037  
EP type number : 0 412 926 024  
Governor  
Governor design. : RQV250...1050PA1236K  
Governor no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1202

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 85  
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.00  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery blocking

\*NW after s.o.d. : 180.00  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 775

Rack travel in mm : 14.05



Tolerance mm : + 0.05  


---

 Del. quantity  
 cm3/1000 strokes : 330.0  


---

 Tolerance  
 cm3/1000 strokes : + 1.0  


---

 Check tolerance  
 cm3/1000S. : + 10.0  


---

 Spreed  
 Tolerance  
 cm3/1000 strokes : 8.0  


---

 Check tolerance  
 cm3/1000S. : 14.0  


---

 Rated speed rpm : 250  


---

 Rack travel in mm : 4.60  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm3/1000 strokes : 19.0  
 Tolerance  
 cm3/1000 strokes : + 3.0  
 Check tolerance  
 cm3/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 4.0  
 Check tolerance  
 cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.79  
 Tolerance mm : + 0.20  


---

 Rated speed rpm : 1116  
 guide sleeve  
 travel mm : 10.09  
 Tolerance mm : + 0.15  


---

 Rated speed rpm : 644  
 guide sleeve  
 travel mm : 4.47  
 Tolerance mm : + 0.25  


---

 Rated speed rpm : 290  
 guide sleeve  
 travel mm : 2.62  
 Tolerance mm : + 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170  


---

 Rack travel in mm : 12.10  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 775  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm3/1000 strokes : 330.0  
 Tolerance  
 cm3/1000 strokes : + 1.0  
 Check tolerance  
 cm3/1000S. : + 10.0  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 14.0

CONTROL LEVER

control lever  
 position degree : 63.0  
 tolerance degree : + 4.0  


---

 control lever  
 position degree : 121.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.10  
 Rated speed rpm : 1095  
 Tolerance 1/min : + 5  


---

 rack travel mm : 4.00  
 Rated speed rpm : 1180  
 Tolerance 1/min : + 15  


---

 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1300

---

### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 17.0  
tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.30

Rated speed rpm : 150

CRT mm min. :  $>$  7.30

Rated speed rpm : 275

---

### TORQUE CONTROL

Rated speed rpm : 775  
rack travel mm : 14.05  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 13.05  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1050  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 675  
Tolerance mm :  $\pm$  0.30

---

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 775  
Pressure hPa : 1500  
rack travel mm : 14.05  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 775  
rack travel mm : 8.50

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 775

Pressure hPa : 300  
rack travel mm : 9.80  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 610  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.05

---

### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  170

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  190

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 319.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  10.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 272.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  8.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 675  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  10.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 2.0

Tolerance  
 cm3/1000 strokes : +- 2.0

Aneroid pressure  
 hPa : -

Rated speed rpm : 500

Del. quantity  
 cm3/1000 strokes : 192.0

Tolerance  
 cm3/1000 strokes : +- 1.0

Check tolerance  
 cm3/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.10

Rated speed rpm : 1095

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 10.70

Tolerance mm : +- 0.50

Del. quantity  
 cm3/1000 strokes : 210.0

Tolerance  
 cm3/1000 strokes : +- 20.0

Check tolerance  
 cm3/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250

rack travel mm : 4.60

Tolerance mm : +- 0.30

Del. quantity  
 cm3/1000 strokes : 19.0

Tolerance  
 cm3/1000 strokes : +- 3.0

Check tolerance  
 cm3/1000S. : +- 6.0

Spreed  
 Tolerance  
 cm3/1000 strokes : 4.0

Check tolerance  
 cm3/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.02.96  
Test oil : ISO 4113  
Combination No. : 0 402 946 018

Injection pump  
Pump designation : PES6P120A72ORS8041  
EP type number : 0 412 926 027

Governor  
Governor design. : RQV250...950PA1253  
Governor no. : 0 421 814 166

Cust. part No. : 1383215

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 11.75

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. L/h : 110  
Tolerance L/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery blocking  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.20  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 5.60  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.31  
Tolerance mm : ± 0.20

Rated speed rpm : 1006  
guide sleeve  
travel mm : 7.25  
Tolerance mm : ± 0.15

Rated speed rpm : 673  
guide sleeve  
travel mm : 4.96  
Tolerance mm : ± 0.25

Rated speed rpm : 420  
guide sleeve  
travel mm : 3.37  
Tolerance mm : ± 0.25

Rated speed rpm : 1390

guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1235

Rack travel in mm : 10.20  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

CONTROL LEVER

control lever  
position degree : 59.0  
tolerance degree : ± 4.0

control lever  
position degree : 112.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.20  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1130  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : ± 4.0

control lever  
position degree : 12.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 7.00

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.20  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 11.20  
Tolerance mm : ± 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.20  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 290  
rack travel mm : 9.00  
Tolerance mm : ± 0.15

Pressure hPa : 540  
rack travel mm : 10.40  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 190

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.02.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 946 019  
  
Injection pump  
Pump designation : PES6P120A720RS8041  
EP type number : 0 412 926 027  
  
Governor  
Governor design. : RQV250...950PA1253  
: -1  
Governor no. : 0 421 814 167  
  
Cust. part No. : 1383216

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 11.74

TEST BENCH REQUIREMENTS

Inlet line : EHAB  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 082  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0  
  
Test nozzle holde  
assembly : 1 688 901 104  
  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery blocking  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 10.35  
Tolerance mm : ± 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 7.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 5.60  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.31  
Tolerance mm : ± 0.20

Rated speed rpm : 1005  
guide sleeve  
travel mm : 7.25  
Tolerance mm : ± 0.15

Rated speed rpm : 673  
guide sleeve  
travel mm : 4.96  
Tolerance mm : ± 0.25

Rated speed rpm : 420  
guide sleeve  
travel mm : 3.37  
Tolerance mm : ± 0.25

Rated speed rpm : 1390

guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 9.35  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 7.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

CONTROL LEVER

control lever  
position degree : 58.0  
tolerance degree : ± 4.0

control lever  
position degree : 111.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.35  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1115  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : +- 4.0

control lever  
position degree : 12.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 7.00

Rated speed rpm : 300

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.35  
Tolerance mm : +- 0.05

Rated speed rpm : 950  
rack travel mm : 10.35  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.35  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 260  
rack travel mm : 8.80  
Tolerance mm : +- 0.15

Pressure hPa : 430  
rack travel mm : 9.80  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 190

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 9.35  
Rated speed rpm : 995  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.02.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 946 302  
  
Injection pump  
Pump designation : PES6P120A720LS8514  
EP type number : 0 412 926 210  
  
Governor  
Governor design. : RQV250...950PA1209K  
Governor no. : 0 421 815 972  
  
Cust. part No. : 1369074

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1206

TEST BENCH REQUIREMENTS

Inlet line : EHAB  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 082  
  
Inlet press. bar : 2.5  
  
Test nozzle holde  
assembly : 1 688 901 104  
  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 008  
  
Outside diameter : 6.0  
x inside diameter : 2.0

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x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery blocking  
  
°NW after s.o.d. : 180.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 825  
  
Rack travel in mm : 13.45  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 375.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + 11.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 4.60  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.67  
 Tolerance mm : + 0.20

Rated speed rpm : 1017  
 guide sleeve  
 travel mm : 9.08  
 Tolerance mm : + 0.15

Rated speed rpm : 661  
 guide sleeve  
 travel mm : 5.50  
 Tolerance mm : + 0.25

Rated speed rpm : 302  
 guide sleeve  
 travel mm : 2.44  
 Tolerance mm : + 0.25

Rated speed rpm : 352  
 guide sleeve  
 travel mm : 3.14  
 Tolerance mm : + 0.25

Rated speed rpm : 390  
 guide sleeve  
 travel mm : 3.50  
 Tolerance mm : + 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1154  
 Rack travel in mm : 12.45  
 Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 825  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 375.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 11.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

---

CONTROL LEVER

control lever  
 position degree : 61.0  
 tolerance degree : + 4.0

control lever  
 position degree : 115.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.70  
 Rated speed rpm : 995  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1110  
 Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 18.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.30

Rated speed rpm : 150

CRT mm min. :  $>$  6.10

Rated speed rpm : 275

---

TORQUE CONTROL

Rated speed rpm : 825  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 950  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 825  
Pressure hPa : 1500  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 825  
rack travel mm : 7.20

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Tolerance mm :  $\pm$  0.20

Rated speed rpm : 825

Pressure hPa : 435  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 700  
rack travel mm : 10.10  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  170

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  190

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 378.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  11.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 331.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 995  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.20  
Tolerance mm : + 0.50

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 444 146  
Injection pump  
Pump designation : PES4MW100/72ORS1127  
EP type number : 0 413 404 103  
Governor  
Governor design. : RQV300...1300MW48-1  
Governor no. : 0 420 083 084  
Cust. part No. : 0190742602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 364 A  
Power KW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : ± 3.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5



Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 300  
 Rack travel in mm : 7.85  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.37  
 Tolerance mm : ± 0.20  
 Rated speed rpm : 1354  
 guide sleeve  
 travel mm : 8.65  
 Tolerance mm : ± 0.15  
 Rated speed rpm : 885  
 guide sleeve  
 travel mm : 5.01  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 490  
 guide sleeve  
 travel mm : 2.86  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1610  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1440  
 Rack travel in mm : 10.00  
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 83.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 94.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1345  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1445  
 Tolerance 1/min : ± 15  
 rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.85  
 Tolerance mm : ± 0.05  
 Rated speed rpm : 200  
 CRT mm min. : > 9.50

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.15  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 12.00  
Tolerance mm : ± 0.10

Rated speed rpm : 585  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 230

Check speed 1/min : > 80  
Check speed 1/min : < 250

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure hPa : -  
Rated speed rpm : 585  
Del. quantity cm<sup>3</sup>/1000 strokes : 75.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.85  
Tolerance mm : ± 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 476 145  
Injection pump  
Pump designation : PES6MW100/320RS1244  
EP type number : 0 413 406 244  
Governor  
Governor design. : RSV300...1100MW1A399  
Governor no. : 0 420 085 289

Cust. part No. :

Customer-spec. information  
Customer : SISU  
Motor : 634 DWE  
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0

K07

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75  
Start of delivery blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075  
Rack travel in mm : 12.10  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 500

Rack travel in mm : 4.30  
 Tolerance mm : + 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
 Tolerance mm : + 0.35

governor spring  
 pre-tension  
 click setting x : 5.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075  
 Aneroid pressure  
 hPa : 1200

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 140.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
 position degree : 112.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.10  
 Rated speed rpm : 1130  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1180  
 Tolerance 1/min : + 15

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1300

rack travel mm : 4.00  
 Rated speed rpm : 1190

---

LOW IDLE

control lever  
 position degree : 84.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 500  
 rack travel mm : 3.80

Testing:

Rated speed rpm : 500  
 rack travel mm : 4.30  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 560  
 Tolerance 1/min : + 30

---

TORQUE CONTROL

Rated speed rpm : 1075  
 rack travel mm : 12.10  
 Tolerance mm : + 0.05

Rated speed rpm : 600  
 rack travel mm : 12.10  
 Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.10  
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.90  
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 11.50  
Tolerance mm : +- 0.15

Pressure hPa : 400  
rack travel mm : 10.25  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1130  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 500  
rack travel mm : 4.30  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 876 434  
  
Injection pump  
Pump designation : PES6A95D41ORS2864  
EP type number : 0 410 896 888  
  
Governor  
Governor design. : RSV400...1050A8C2263  
                  : -11L  
Governor no. : 0 420 232 635  
  
Cust. part No. : 87 800 972

---

Customer-spec. information  
Customer : NH  
Motor : P 396  
Power KW : 172.0

---

TEST BENCH REQUIREMENTS

Inlet line : 1.3  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 008  
  
Outside diameter : 6.0

K10

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300

---

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 13.50  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.5  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
  
 Rated speed rpm : 450  
  
 Rack travel in mm : 5.50  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 15.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE POSITION

governor spring  
 pre-tension  
 click setting x : 4.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 132.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1078  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1153  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85

Tolerance mm : ± 0.55  
 Rated speed rpm : 1300  
  
 Rated speed rpm : 1079  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1154  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1300  
  
 Rated speed rpm : 1080  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1155  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1300  
  
 Rated speed rpm : 1081  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1156  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1300  
  
 Rated speed rpm : 1082  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1157  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1300  
  
 Rated speed rpm : 1083  
 rack travel mm : 11.35  
  
 Rated speed rpm : 1158  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1300

---

LOW IDLE

Testing:

Rated speed rpm : 450  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 600  
Tolerance 1/min : ± 30

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.50  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 13.55  
Tolerance mm : ± 0.10

Rated speed rpm : 1025  
rack travel mm : 11.20  
Tolerance mm : ± 0.05

Rated speed rpm : 1025  
rack travel mm : 12.35  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.55  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.70  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 650  
rack travel mm : 12.50  
Tolerance mm : ± 0.05

Pressure hPa : 450  
rack travel mm : 11.00  
Tolerance mm : ± 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 11.0

---

LOW IDLE

Rated speed rpm : 450  
rack travel mm : 5.50  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 792  
  
Injection pump  
Pump designation : PES6P120A72ORS3367  
EP type number : 0 412 026 788  
  
Governor  
Governor design. : RSV400...1100P2A599  
                  : -7  
Governor no. : 0 421 833 527  
  
Cust. part No. : RE66244

Customer-spec. information  
Customer : DEERE  
Motor : 6081AF001  
Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 457 413 010  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
  
°NW after s.o.d. : 6.75  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.10  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 95.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.10  
Rated speed rpm : 1160  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1210  
Tolerance 1/min : + 5

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1210

LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.10

Testing:

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.10  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 13.00  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.50  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 760  
rack travel mm : 12.00  
Tolerance mm : +- 0.20

Pressure hPa : 350  
rack travel mm : 10.30  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 172.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 94.5

Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm3/1000 strokes : 105.0  
Tolerance  
cm3/1000 strokes : +- 20.0  
Check tolerance  
cm3/1000S. : +- 25.0

---

LOW IDLE

Del. quantity  
cm3/1000 strokes : 30.5  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Speed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 076 793  
Injection pump  
Pump designation : PES6P120A720PS3367  
EP type number : 0 412 026 788  
Governor  
Governor design. : RSV400...1100P2A599  
                  : -8  
Governor no. : 0 421 833 528  
Cust. part No. : RE66243

---

Customer-spec. information  
Customer : DEERE  
Motor : 6081AF001  
Power kW : 168.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 457 413 010  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
°NW after s.o.d. : 6.75  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1  
Beginning of delivery difference  
and maximum rack  
travel : 14.00  
Difference °CS : 2.50

---

## BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.10  
Tolerance mm : +- 0.05

---

Del. quantity  
cm3/1000 strokes : 151.0

---

Tolerance  
cm3/1000 strokes : +- 1.0

---

Check tolerance  
cm3/1000S. : +- 3.0

---

Spread  
Tolerance  
cm3/1000 strokes : 4.0

---

Check tolerance  
cm3/1000S. : 6.5

---

Del. quantity  
cm3/1000 strokes : 30.5  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Spread  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm3/1000 strokes : 151.0

Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0  
Spread  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 95.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.10  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1210  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1210

LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.10

Testing:

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.10  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.50  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 760  
rack travel mm : 12.00  
Tolerance mm : ± 0.20

Pressure hPa : 350  
rack travel mm : 10.30  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1160  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 800  
  
Injection pump  
Pump designation : PES6P120A72ORS3367  
EP type number : 0 412 026 788  
  
Governor  
Governor design. : RSV450...1100P2A640  
Governor no. : 0 421 833 552  
  
Cust. part No. : RE66248

Customer-spec. information  
Customer : DEERE  
Motor : 6081HDW04  
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 457 413 010  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
  
°NW after s.o.d. : 7.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 11.80  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 147.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 28.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 4.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 147.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

K20

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 96.0  
tolerance degree : + 4.0

---

RATED SPEED

rack travel mm : 10.80  
Rated speed rpm : 1160  
Tolerance 1/min : + 5

---

rack travel mm : 4.00  
Rated speed rpm : 1220  
Tolerance 1/min : + 5

---

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1350

---

rack travel mm : 4.00  
Rated speed rpm : 1220

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0

---

Setting point w/out bumper spring

Rated speed rpm : 450  
rack travel mm : 4.90

Testing:

Rated speed rpm : 450  
rack travel mm : 5.40  
Tolerance mm : + 0.10

---

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.80  
Tolerance mm : + 0.05

---

Rated speed rpm : 700



rack travel mm : 13.60  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1300

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1000  
rack travel mm : 12.90  
Tolerance mm : +- 0.20

Pressure hPa : 720  
rack travel mm : 11.30  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 193.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.80

K21

Rated speed rpm : 1160  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 28.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 847  
  
Injection pump  
Pump designation : PES6P120A12ORS7287  
EP type number : 0 412 726 896  
  
Governor  
Governor design. : RQV400...1250PA964  
: -22K  
Governor no. : 0 421 815 366  
  
Cust. part No. : 3921923

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

K22

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.60  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 6.00  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.35  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever  
position degree : 120.0

tolerance degree : +- 6.0

RATED SPEED

K23

rack travel mm : 13.10

Rated speed rpm : 1315

Tolerance 1/min : +- 15

---

rack travel mm : 4.00

Rated speed rpm : 1480

Tolerance 1/min : +- 5

---

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1600

LOW IDLE

control lever  
position degree : 74.0

tolerance degree : +- 6.0

Testing:

Rated speed rpm : 420

rack travel mm : 5.80

Tolerance mm : +- 0.20

---

Rated speed rpm : 300

CRT mm min. : > 8.80

Rated speed rpm : 420

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 14.35

Tolerance mm : +- 0.05

---

Rated speed rpm : 800

rack travel mm : 12.60

Tolerance mm : +- 0.20

---

Rated speed rpm : 1250

rack travel mm : 14.20

Tolerance mm : +- 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150

Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1150

Pressure hPa : 685  
rack travel mm : 13.30  
Tolerance mm : ± 0.30

Pressure hPa : 425  
rack travel mm : 11.50  
Tolerance mm : ± 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 315

Check speed 1/min : > 80  
Check speed 1/min : < 325

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 149.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1150  
Del. quantity cm<sup>3</sup>/1000 strokes : 96.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 13.10

K24

Rated speed rpm : 1315  
Tolerance 1/min : ± 15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

---

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 5.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 848  
  
Injection pump  
Pump designation : PES6P120A12ORS7314  
EP type number : 0 412 726 901  
  
Governor  
Governor design. : RQV400...1250PA964  
                  : -23K  
Governor no. : 0 421 815 374  
  
Cust. part No. : 3921922

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

K25

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 12.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
                  : 4

Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.75  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.35  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 169.5
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 13.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 5.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 169.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

CONTROL LEVER

control lever position degree	: 118.0
tolerance degree	: ± 6.0

RATED SPEED

K26

rack travel mm	: 13.00
Rated speed rpm	: 1310
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1475
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1550

LOW IDLE

control lever position degree	: 72.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 420
rack travel mm	: 6.10
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 300
CRT mm min.	: > 8.90
Rated speed rpm	: 420

TORQUE CONTROL

Rated speed rpm	: 1150
rack travel mm	: 14.35
Tolerance mm	: ± 0.05
<hr/>	
Rated speed rpm	: 800
rack travel mm	: 12.90
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1250
rack travel mm	: 14.10
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm	: 1150
Pressure hPa	: 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 11.50  
Tolerance mm : +- 0.20

Rated speed rpm : 1150

Pressure hPa : 500  
rack travel mm : 13.50  
Tolerance mm : +- 0.30

Pressure hPa : 375  
rack travel mm : 12.30  
Tolerance mm : +- 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 315

Check speed 1/min : > 80  
Check speed 1/min : < 325

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 141.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1150  
Del. quantity cm<sup>3</sup>/1000 strokes : 112.5  
Tolerance cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.00

K27

Rated speed rpm : 1310  
Tolerance 1/min : +- 15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.00  
Tolerance mm : +- 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 25.0

---

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 5.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 905  
  
Injection pump  
Pump designation : PES6P120A120RS7416  
EP type number : 0 412 726 959  
  
Governor  
Governor design. : RQV400...1250PA1060  
                  : -3K  
Governor no. : 0 421 815 513  
  
Cust. part No. : 3928145

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holder  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 6.25  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250  
  
Rack travel in mm : 13.35  
Tolerance mm : ± 0.05



Del. quantity cm <sup>3</sup> /1000 strokes	:	153.5
<hr/>		
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	12.0
<hr/>		
Del. quantity cm <sup>3</sup> /1000 strokes	:	15.5
Tolerance cm <sup>3</sup> /1000 strokes	:	± 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 5.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	4.0
Check tolerance cm <sup>3</sup> /1000S.	:	8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	400
guide sleeve travel mm	:	1.44
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	1329
guide sleeve travel mm	:	7.83
Tolerance mm	:	± 0.15
<hr/>		
Rated speed rpm	:	939
guide sleeve travel mm	:	5.18
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	640
guide sleeve travel mm	:	3.56
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	1690
guide sleeve travel mm	:	11.50
Tolerance mm	:	± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
Aneroid pressure hPa	:	1200
Del. quantity cm <sup>3</sup> /1000 strokes	:	153.5
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

CONTROL LEVER

control lever position degree	:	117.0
tolerance degree	:	± 4.0

RATED SPEED

rack travel mm	:	12.30
Rated speed rpm	:	1325
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1475
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	0.50
Tolerance mm	:	± 0.50
Rated speed rpm	:	1550

LOW IDLE

control lever position degree	:	71.0
tolerance degree	:	± 4.0

Testing:

Rated speed rpm	:	420
rack travel mm	:	6.00
Tolerance mm	:	± 0.20
<hr/>		
Rated speed rpm	:	400
CRT mm min.	:	> 5.80

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 12.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500  
rack travel mm : 11.60  
Tolerance mm : ± 0.20

Rated speed rpm : 900  
rack travel mm : 12.40  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.40  
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 350  
rack travel mm : 12.70  
Tolerance mm : ± 0.30

Pressure hPa : 265  
rack travel mm : 11.80  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80  
Check speed 1/min : < 290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1325  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.03.96  
Test oil : ISO 4113  
  
Combination No. : 9 400 030 736  
  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
  
Governor  
Governor design. :  
Governor no. : 9 420 034 715  
  
Cust. part No. : 3929769

Customer-spec. information

Customer : CDC  
Motor : 6BT  
Power KW : 88.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 047  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test Lines : 1 680 750 014  
  
Outside diameter : 6.0

L04

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 7.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 102.5  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.30  
Rated speed rpm : 1260  
Tolerance 1/min : ± 5

rack travel mm : 4.30  
Rated speed rpm : 1315  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1400

rack travel mm : 4.30  
Rated speed rpm : 1325

LOW IDLE

control lever  
position degree : 88.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425  
rack travel mm : 4.60

Testing:

Rated speed rpm : 425  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 9.35  
Tolerance mm : ± 0.05

---

BREAKAWAY

Rack travel in mm : 8.30  
Rated speed rpm : 1260  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 15.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.03.96
Test oil : ISO 4113
Combination No. : 0 402 678 830
Injection pump
Pump designation : PE8P12CA520/5RS7386
EP type number : 0 412 628 910
Governor
Governor design. : RSUV325...1150POA365
Governor no. : 0 421 829 113

Cust. part No. : 12277649KY0120-17

Customer-spec. information
Customer : MWM
Motor : TBD 616 V16
Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Test nozzle holder assembly : 1 688 901 019
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 4.65
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 13.00
Tolerance mm : +- 0.10
Firing order : 1- 2- 7- 8- 3- 4-
: 5- 6
Phasing : 0-30-45-75-90-120
: -315-345
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 12.60
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 262.0
Tolerance cm3/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

rack travel mm : 11.60  
Rated speed rpm : 1193  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1380

rack travel mm : 4.00  
Rated speed rpm : 1285

---

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 300  
rack travel mm : 5.90

Testing:

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm : ± 0.10

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 12.60  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 12.60  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1800  
rack travel mm : 12.60  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 8.50  
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 1600  
rack travel mm : 9.60  
Tolerance mm : ± 0.20

Pressure hPa : -  
rack travel mm : 12.45  
Tolerance mm : ± 0.05



---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1193  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 19.50

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 746 650  
  
Injection pump  
Pump designation : PES6P120A32ORS7344  
EP type number : 0 412 726 914  
  
Governor  
Governor design. : RQ275/1050PA999-6  
Governor no. : 0 421 801 785  
  
Cust. part No. : CCEP 5151A 66-230

Customer-spec. information  
Customer : RVI  
Motor : MIDR 062045 M41  
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1  
  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 2 417 413 071  
  
Inlet press. bar : 2.5  
  
Overflow quantity min. l/h : 145  
Tolerance l/h : + 10.0  
  
Test nozzle holde assembly : 1 688 901 105  
  
Opening pressure bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 4.50  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
  
Rack travel in mm : 11.00  
Tolerance mm : + 0.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50  
  
Start of delivery mark  
  
°NW after s.o.d. : -0.15  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
betw. rack trav. mm : 21.00  
and maximum rack travel : 11.00  
Difference ° CS : 2.25

---

BASIC SETTING

Rated speed rpm : 600

---

Rack travel in mm : 11.60  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 288.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 275

Rack travel in mm : -7.00  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 0.80  
Tolerance mm : + 0.10

Rated speed rpm : 1132  
guide sleeve  
travel mm : 6.37  
Tolerance mm : + 0.10

Rated speed rpm : 1050

guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 416  
guide sleeve  
travel mm : 3.44  
Tolerance mm : + 0.10

Rated speed rpm : 560  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 1350  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure

hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 288.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 274.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1135  
Tolerance 1/min : + 5

rack travel mm : -7.60

Rated speed rpm : 1240  
Tolerance 1/min : +- 15  
rack travel mm : -11.10  
Tolerance mm : +- 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 251.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -7.00  
Tolerance mm : +- 0.10  
rack travel mm : -9.50  
Rated speed rpm : 365  
Tolerance 1/min : +- 20  
Rated speed rpm : 200  
CRT mm min. : < -5.80

---

TORQUE CONTROL

Rated speed rpm : 600  
Rated speed rpm : 1050  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -3.65  
Tolerance mm : +- 0.30  
Rated speed rpm : 500  
Pressure hPa : 560  
rack travel mm : -1.25  
Tolerance mm : +- 0.15

L12

Pressure hPa : 320  
rack travel mm : -2.75  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 225

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 245

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 281.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1135  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : -7.00  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 246 046  
Injection pump  
Pump designation : PES6MW100/720RS1522  
EP type number : 0 413 206 023  
Governor  
Governor design. : RQV300...1300MW148  
: -3  
Governor no. : 0 420 083 324  
Cust. part No. : 0250744702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 4.55  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
Rack travel in mm : 21.00  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 14.50  
Tolerance mm : +- 0.05  
Del. quantity  
cm3/1000 strokes : 133.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000s. : +- 4.0  
Spreed  
Tolerance  
cm3/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
 Rated speed rpm : 300  
 Rack travel in mm : 4.50  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.92  
 Tolerance mm : + 0.25

Rated speed rpm : 1355  
 guide sleeve  
 travel mm : 9.33  
 Tolerance mm : + 0.25

Rated speed rpm : 1078  
 guide sleeve  
 travel mm : 7.06  
 Tolerance mm : + 0.25

Rated speed rpm : 514  
 guide sleeve  
 travel mm : 2.14  
 Tolerance mm : + 0.25

Rated speed rpm : 564  
 guide sleeve  
 travel mm : 2.60  
 Tolerance mm : + 0.25

Rated speed rpm : 740  
 guide sleeve  
 travel mm : 3.93  
 Tolerance mm : + 0.25

Rated speed rpm : 1720  
 guide sleeve  
 travel mm : 13.50

Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 10.00  
 Tolerance mm : + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 133.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

---

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.50  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1495  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1600

---

LOW IDLE

control lever  
 position degree : 75.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 5.50

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.50  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 700  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

Pressure hPa : 300  
rack travel mm : 1.70  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 220

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 128.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 46.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0



---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.03.96
Test oil : ISO 4113
Combination No. : 0 403 466 175
Injection pump
Pump designation : PES6MW100/12ORS1240
EP type number : 0 413 406 239
Governor
Governor design. : RSV400...950MW2A395
Governor no. : 0 420 085 283
Cust. part No. : 3930113

Customer-spec. information
Customer : CDC
Motor : 6 CT-830
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.35
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75
Start of delivery blocking
°NW after s.o.d. : 8.00
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : 12.40
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 146.0
Tolerance cm3/1000 strokes : +- 1.0

Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 7.5
Rated speed rpm	: 400
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 20.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.5
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: ± 0.35
governor spring pre-tension click setting x	: 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 950
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 146.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0

Check tolerance cm <sup>3</sup> /1000S.	: 7.5
--	-------

CONTROL LEVER

control lever position degree	: 93.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 11.40
Rated speed rpm	: 995
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1040
Tolerance 1/min	: ± 15
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1200
rack travel mm	: 4.00
Rated speed rpm	: 1055

LOW IDLE

control lever position degree	: 68.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 400
rack travel mm	: 5.10

Testing:

Rated speed rpm	: 400
rack travel mm	: 5.60
Tolerance mm	: ± 0.30

rack travel mm	: 2.00
Rated speed rpm	: 480
Tolerance 1/min	: ± 30

TORQUE CONTROL

Rated speed rpm	: 950
rack travel mm	: 12.40
Tolerance mm	: ± 0.05
Rated speed rpm	: 750

rack travel mm : 12.40  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 11.90  
Tolerance mm : ± 0.15

Pressure hPa : 600  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : ± 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 13.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.03.96
Test oil : ISO 4113
Combination No. : 9 400 085 385
Injection pump
Pump designation : PES6A95D410RS2886
EP type number : 9 400 084 039
Governor
Governor design. : RQV300...1300AB1306L
Governor no. : 9 420 080 324

Cust. part No. : 0260745502

Customer-spec. information
Customer : MBB
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 3.00
Tolerance mm : + 0.05
Check tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 10.65
Tolerance mm : + 0.05
Del. quantity cm3/1000 strokes : 81.0
Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000S. : + 3.0
Speed Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000S. : 8.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : ± 0.25

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 81.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

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Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 108.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.60  
 Rated speed rpm : 1355  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1480  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1600

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 22.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.10  
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 9.30

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.65  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.55  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 11.35  
Tolerance mm : ± 0.05

Rated speed rpm : 1030  
rack travel mm : 10.85  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.55  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 0.50  
Tolerance mm : ± 0.10

Pressure hPa : 390  
rack travel mm : 1.35  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 260

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1355  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
Combination No. : 9 400 085 388  
Injection pump  
Pump designation : PES6A95D410RS2886  
EP type number : 9 400 084 039  
Governor  
Governor design. : RQV300...1300AB1306L  
Governor no. : 9 420 080 384  
Cust. part No. : 0260746702

Customer-spec. information  
Customer : MBB  
Motor : OM 366A EURO I  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 10.65  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : ± 0.25

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 81.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 108.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.60  
 Rated speed rpm : 1355  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1480  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1600

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 22.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.10  
 Tolerance mm : ± 0.10

Rated speed rpm : 100  
 CRT mm min. : > 9.30

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.65  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 11.55  
Tolerance mm : +- 0.05

Rated speed rpm : 800  
rack travel mm : 11.35  
Tolerance mm : +- 0.05

Rated speed rpm : 1030  
rack travel mm : 10.85  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.55  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 0.50  
Tolerance mm : +- 0.10

Pressure hPa : 390  
rack travel mm : 1.35  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 260

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1355  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.03.96
Test oil : ISO 4113
Combination No. : 0 400 876 435
Injection pump
Pump designation : PES6A95D410RS2864
EP type number : 0 410 896 888
Governor
Governor design. : RSV400...1050A8C2263
Governor no. : 0 420 232 636
Cust. part No. : 87 800 971

Customer-spec. information
Customer : NH
Motor : 7.5 L
Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

M01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Frestroke mm : 2.60
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300

BASIC SETTING

Rated speed rpm : 800
Rack travel in mm : 13.45
Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes : 144.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 3.0
Speed Tolerance cm3/1000 strokes : 3.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
  
 Rated speed rpm : 650  
  
 Rack travel in mm : 4.70  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring  
 pre-tension  
 click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 3.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 96.0  
 tolerance degree : +- 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1058  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1091  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250  
  
 Rated speed rpm : 1059  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1092  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250  
  
 Rated speed rpm : 1060  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1093  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250  
  
 Rated speed rpm : 1061  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1094  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250  
  
 Rated speed rpm : 1062  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1095  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250  
  
 Rated speed rpm : 1063  
 rack travel mm : 11.40  
  
 Rated speed rpm : 1096  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 650  
rack travel mm : 4.70  
Tolerance mm : + 0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 740  
Tolerance 1/min : + 30

---

TORQUE CONTROL

Rated speed rpm : 800  
rack travel mm : 13.45  
Tolerance mm : + 0.10  
  
Rated speed rpm : 500  
rack travel mm : 13.50  
Tolerance mm : + 0.10  
  
Rated speed rpm : 1025  
rack travel mm : 11.90  
Tolerance mm : + 0.05  
  
Rated speed rpm : 1025  
rack travel mm : 12.40  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.50  
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.90

Tolerance mm : + 0.05  
Rated speed rpm : 500  
Pressure hPa : 750  
rack travel mm : 12.30  
Tolerance mm : + 0.05

Pressure hPa : 550  
rack travel mm : 10.00  
Tolerance mm : + 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

LOW IDLE

Rated speed rpm : 650  
rack travel mm : 4.70  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet





BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 834  
  
Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 882  
  
Governor  
Governor design. : RQV350...1100PA964  
                  : -12K  
Governor no. : 0 421 815 323  
  
Cust. part No. : 3922471

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

M05

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 5.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 117.0

tolerance degree : ± 6.0

RATED SPEED

M06

rack travel mm : 12.40

Rated speed rpm : 1280

Tolerance 1/min : ± 15

---

rack travel mm : 4.00

Rated speed rpm : 1405

Tolerance 1/min : ± 5

---

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 70.0

tolerance degree : ± 6.0

Testing:

Rated speed rpm : 350

rack travel mm : 6.80

Tolerance mm : ± 0.20

Rated speed rpm : 275

CRT mm min. : > 8.30

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1100

rack travel mm : 13.95

Tolerance mm : ± 0.05

Rated speed rpm : 650

rack travel mm : 12.20

Tolerance mm : ± 0.20

Rated speed rpm : 1200

rack travel mm : 13.50

Tolerance mm : ± 0.10

Rated speed rpm : 750

rack travel mm : 12.40

Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.90  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 650  
rack travel mm : 12.70  
Tolerance mm : ± 0.20

Pressure hPa : 310  
rack travel mm : 10.20  
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 176.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1100  
Del. quantity cm<sup>3</sup>/1000 strokes : 86.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1280  
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 23.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 5.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 895  
  
Injection pump  
Pump designation : PES6P120A12ORS7353  
EP type number : 0 412 726 924  
  
Governor  
Governor design. : RQV350...1100PA1176  
: -1K  
Governor no. : 0 421 815 496  
  
Cust. part No. : 3930611

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test Lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 5.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 2.28  
Tolerance mm : +- 0.25

Rated speed rpm : 1282  
guide sleeve  
travel mm : 9.01  
Tolerance mm : +- 0.25

Rated speed rpm : 452  
guide sleeve  
travel mm : 3.50  
Tolerance mm : +- 0.25

Rated speed rpm : 402  
guide sleeve  
travel mm : 2.91  
Tolerance mm : +- 0.25

Rated speed rpm : 1640  
guide sleeve  
travel mm : 13.50  
Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 118.0  
tolerance degree : +- 6.0

RATED SPEED

rack travel mm : 12.40  
Rated speed rpm : 1280  
Tolerance 1/min : +- 15

rack travel mm : 8.00  
Rated speed rpm : 1345  
Tolerance 1/min : +- 5

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1460

LOW IDLE

control lever  
position degree : 68.0  
tolerance degree : +- 6.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.70  
Tolerance mm : +- 0.20

Rated speed rpm : 275

CRT mm min. : > 8.20

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 11.95  
Tolerance mm : ± 0.20

Rated speed rpm : 1200  
rack travel mm : 13.60  
Tolerance mm : ± 0.10

Rated speed rpm : 750  
rack travel mm : 12.30  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.30  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 650  
rack travel mm : 13.00  
Tolerance mm : ± 0.20

Pressure hPa : 310  
rack travel mm : 10.70  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 300

M10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1280  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.80  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 736 910  
Injection pump  
Pump designation : PES6P120A720RS7351  
EP type number : 0 412 726 922  
Governor  
Governor design. : RQV450...1100PA1291K  
Governor no. : 0 421 815 526  
Cust. part No. : 3931948

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

M12

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
Prestroke mm : 4.40  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 14.75  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0



<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 27.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 5.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 450
guide sleeve	
travel mm	: 1.23
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1183
guide sleeve	
travel mm	: 7.71
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 870
guide sleeve	
travel mm	: 4.59
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1570
guide sleeve	
travel mm	: 13.50
Tolerance mm	: ± 0.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: -

Del. quantity	
cm <sup>3</sup> /1000 strokes	: 215.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

---

CONTROL LEVER

control lever	
position degree	: 116.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 13.70
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

rack travel mm	: 7.80
Rated speed rpm	: 1250
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1375

---

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 450
rack travel mm	: 6.80
Tolerance mm	: ± 0.20

Rated speed rpm	: 325
-----------------	-------

CRT mm min.	: > 8.50
-------------	----------

Rated speed rpm	: 525
-----------------	-------

---

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 14.75

Tolerance mm :  $\pm$  0.05  
Rated speed rpm : 800  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 12.70  
Tolerance mm :  $\pm$  0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 207.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.70  
Rated speed rpm : 1165  
Tolerance 1/min :  $\pm$  15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.80  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 776 838  
  
Injection pump  
Pump designation : PES6P120A720RS7382  
EP type number : 0 412 726 943  
  
Governor  
Governor design. : RSV625...1100POA547  
                  : -14  
Governor no. : 0 421 833 545  
  
Cust. part No. : RE67358

Customer-spec. information  
Customer : DEERE  
Motor : 6081 HZ001  
Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 079  
  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
  
°NW after s.o.d. : 9.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 11.45  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 3.75

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 2000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.40  
Rated speed rpm : 1175  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1235

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1235

---

LOW IDLE

control lever  
position degree : 78.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 625  
rack travel mm : 4.50

Testing:

Rated speed rpm : 625  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.45  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 13.10  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 2000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.60  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 1350  
rack travel mm : 12.30  
Tolerance mm : + 0.20

Pressure hPa : 630  
rack travel mm : 10.50  
Tolerance mm : + 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 136.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

M17

---

BREAKAWAY

Rack travel in mm : 10.40  
Rated speed rpm : 1175  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.03.96  
Test oil : ISO 4113

Combination No. : 0 403 466 161

Injection pump  
Pump designation : PES6MW100/120RS1240  
EP type number : 0 413 406 239

Governor  
Governor design. : RSV500...1100MW2A379  
Governor no. : 0 420 085 262

Cust. part No. : 3926882

Customer-spec. information  
Customer : CDC  
Motor : 6 CT  
Power KW : 161.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M18

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 8.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack  
travel : 15.00  
Difference ° CS : 1.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.25  
Tolerance mm : +- 0.05

---

Del. quantity  
cm3/1000 strokes : 144.5

---

Tolerance  
cm3/1000 strokes : +- 1.0

---

Check tolerance  
cm3/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm3/1000 strokes : 4.0

---

Check tolerance  
cm3/1000S. : 7.5

---

Del. quantity  
cm3/1000 strokes : 21.5  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Spreed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 4.75

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm3/1000 strokes : 144.5

Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 4.0  
Spreed  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 7.5

---

CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.20  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

rack travel mm : 5.30  
Rated speed rpm : 1230  
Tolerance 1/min : +- 5

rack travel mm : 1.00  
Tolerance mm : +- 0.70  
Rated speed rpm : 1375

rack travel mm : 5.30  
Rated speed rpm : 1235

---

LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 500  
rack travel mm : 4.70

Testing:

Rated speed rpm : 500  
rack travel mm : 5.20  
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.25  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 12.70  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.70  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 790  
rack travel mm : 11.90  
Tolerance mm : +- 0.20

Pressure hPa : 620  
rack travel mm : 11.30  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 13.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
Combination No. : 9 400 030 733  
Injection pump  
Pump designation : PES4A95D320/3RS2880  
EP type number : 9 410 037 214

Governor  
Governor design. :  
Governor no. : 9 420 034 712

Cust. part No. : 3930149

Customer-spec. information  
Customer : CDC  
Motor : 4BT3.9  
Power KW : 78.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M21

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.5

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.5
<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 20.5
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: +- 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 105.5
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.5

---

CONTROL LEVER

control lever	
position degree	: 103.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 11.50
Rated speed rpm	: 1260
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 5.00
Rated speed rpm	: 1340
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400
<hr/>	
rack travel mm	: 5.00
Rated speed rpm	: 1340

---

LOW IDLE

control lever	
position degree	: 78.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 425
rack travel mm	: 5.00

Testing:

Rated speed rpm	: 425
rack travel mm	: 5.50
Tolerance mm	: + 0.10

Rated speed rpm	: 100
CRT mm min.	: > 19.00

---

TORQUE CONTROL

Rated speed rpm	: 1200
rack travel mm	: 12.55
Tolerance mm	: + 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 660  
rack travel mm : 12.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 460  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1260  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
Combination No. : 9 400 030 740  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. :  
Governor no. : 9 420 034 719

Cust. part No. : 3929410

Customer-spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

M24

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 5.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 103.0

RATED SPEED

rack travel mm : 9.85

Rated speed rpm : 1250

Tolerance 1/min : +- 5

rack travel mm : 4.50

Rated speed rpm : 1305

Tolerance 1/min : +- 5

rack travel mm : 0.85

Tolerance mm : +- 0.55

Rated speed rpm : 1400

---

LOW IDLE

control lever  
position degree : 86.0

Setting point w/out bumper spring

Rated speed rpm : 425

rack travel mm : 4.60

Testing:

Rated speed rpm : 425

rack travel mm : 5.10

Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1200

rack travel mm : 10.85

Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 800  
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 800  
rack travel mm : 8.70  
Tolerance mm : +- 0.20

Rated speed rpm : 800

Pressure hPa : 450  
rack travel mm : 10.50  
Tolerance mm : +- 0.20

Pressure hPa : 275  
rack travel mm : 9.50  
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 9.85  
Rated speed rpm : 1250  
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 15.0

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.03.96  
Test oil : ISO 4113  
Combination No. : 0 401 848 830  
Injection pump  
Pump designation : PE8P110A320LS3865  
EP type number : 0 411 818 728  
Governor  
Governor design. : RQV250...1000PA1286  
Governor no. : 0 421 814 175

Cust. part No. :

Customer-spec. information  
Customer : DHI  
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Test nozzle holde assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 8- 7- 2- 6- 3  
                  : - 5- 4- 1  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50  
Start of delivery mark  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75  
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 13.00  
Tolerance mm : + 0.05  
Del. quantity cm3/1000 strokes : 142.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 8.10  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.31  
Tolerance mm : + 0.20

Rated speed rpm : 1058  
guide sleeve  
travel mm : 8.56  
Tolerance mm : + 0.15

Rated speed rpm : 666  
guide sleeve  
travel mm : 5.29  
Tolerance mm : + 0.25

Rated speed rpm : 380  
guide sleeve  
travel mm : 3.20  
Tolerance mm : + 0.25

Rated speed rpm : 1300  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 12.00  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

CONTROL LEVER

control lever  
position degree : 65.0  
tolerance degree : + 4.0

control lever  
position degree : 120.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.00  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1155  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 71.0



tolerance degree : + 4.0  
control lever  
position degree : 16.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 9.50

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.00  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 13.00  
Tolerance mm : + 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 190

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 210

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1045

NO1

Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 646 968  
Injection pump  
Pump designation : PE6P120A320RS7248  
: -10  
EP type number : 0 412 626 900  
Governor  
Governor design. : RQV275...1150PA986  
Governor no. : 0 421 813 920  
Cust. part No. : 1248033/6

Customer-spec. information  
Customer : DAF  
Motor : RS 222 L  
Power KW : 222.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Overflow quantity  
min. l/h : 130  
Tolerance l/h : ± 10.0  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

N02

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 12.50  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.40  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 1.45  
Tolerance mm : + 0.15

Rated speed rpm : 1207  
guide sleeve  
travel mm : 8.25  
Tolerance mm : + 0.25

Rated speed rpm : 800  
guide sleeve  
travel mm : 5.21  
Tolerance mm : + 0.25

Rated speed rpm : 315  
guide sleeve  
travel mm : 1.98  
Tolerance mm : + 0.25

Rated speed rpm : 385  
guide sleeve  
travel mm : 2.52  
Tolerance mm : + 0.25

Rated speed rpm : 450  
guide sleeve  
travel mm : 3.07  
Tolerance mm : + 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1325

Rack travel in mm : 11.20  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.25  
Rated speed rpm : 1207  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1320  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1450

---

LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.70  
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 6.70

Rated speed rpm : 340

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

Rated speed rpm : 1150  
rack travel mm : 12.25  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 9.40  
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 420  
rack travel mm : 11.65  
Tolerance mm : ± 0.05

Pressure hPa : 240  
rack travel mm : 10.40  
Tolerance mm : ± 0.10

NO4

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 122.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.25  
Rated speed rpm : 1207  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 648 791  
  
Injection pump  
Pump designation : PE8P120A320LS7875  
EP type number : 0 412 628 881  
  
Governor  
Governor design. : RQV250...1150PA1287  
Governor no. : 0 421 814 176

Cust. part No. :

Customer-spec. information  
Customer : DHI  
Motor : V2-8TC  
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : +- 0.1  
  
Tolerance l/h : +- 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 089

N05

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.20  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 16.00  
Tolerance mm : +- 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.40  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 7.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 20.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.61
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 8.32
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 1168
guide sleeve	
travel mm	: 7.78
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 640
guide sleeve	
travel mm	: 4.91
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1420
guide sleeve	
travel mm	: 11.50

NO6

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1270
<hr/>	
Rack travel in mm	: 12.40
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 210.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 7.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 56.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 120.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1195
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1275
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever  
position degree : 87.0  
tolerance degree : +- 4.0

control lever  
position degree : 23.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 8.60

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 13.40  
Tolerance mm : +- 0.05

Rated speed rpm : 650  
rack travel mm : 13.40  
Tolerance mm : +- 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.40  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 325  
rack travel mm : 9.50  
Tolerance mm : +- 0.20

Pressure hPa : 800  
rack travel mm : 12.10  
Tolerance mm : +- 0.05

NO7

---

#### START CUT-OUT

Rated speed rpm : > 165  
Rated speed rpm : < 190

Check  
speed 1/min : > 155  
Check  
speed 1/min : < 210

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1195  
Tolerance 1/min : +- 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

---

#### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.03.96  
Test oil : ISO 4113

Combination No. : 0 402 676 831

Injection pump  
Pump designation : PE6P120A320/3LS7895  
EP type number : 0 412 626 955

Governor  
Governor design. : RSV600...1050POA642  
Governor no. : 0 421 833 556

Cust. part No. : 0270748402

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 441 LA  
Power KW : 285.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

NO9

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-45-120-165-240  
: -285  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 14.20  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

Rated speed rpm : 600

Rack travel in mm : 4.20  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

CONTROL LEVER

control lever  
position degree : 93.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.20  
Rated speed rpm : 1115  
Tolerance 1/min : ± 5

---

LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 600  
rack travel mm : 4.20  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

---

TORQUE CONTROL

Rated speed rpm : 1075  
rack travel mm : 14.20  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 15.25  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
rack travel mm : 14.85  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 291.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

BREAKAWAY

Rack travel in mm : 13.20  
Rated speed rpm : 1115  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.75  
Tolerance mm : ± 0.25  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 600  
rack travel mm : 4.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113

Combination No. : 0 402 946 017

Injection pump  
Pump designation : PES6P120A72ORS8039  
EP type number : 0 412 926 026

Governor  
Governor design. : RQV250...950PA1243  
Governor no. : 0 421 814 162

Cust. part No. : 1374808

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 11.79

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 115  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.15  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.90  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	298.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 9.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 14.0
<hr/>	
Rated speed rpm :	250
<hr/>	
Rack travel in mm :	5.60
Tolerance mm :	+ 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes :	21.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	1.33
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1008
guide sleeve	
travel mm :	8.61
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	732
guide sleeve	
travel mm :	6.35
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	470
guide sleeve	
travel mm :	4.09
Tolerance mm :	+ 0.25

Rated speed rpm :	1260
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1165
Rack travel in mm :	10.90
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	1500
Del. quantity	
cm <sup>3</sup> /1000 strokes :	298.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 9.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 14.0

CONTROL LEVER

control lever	
position degree :	55.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	119.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	10.90
Rated speed rpm :	995
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1115
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1200

LOW IDLE

control lever  
position degree : 81.0  
tolerance degree : ± 4.0

control lever  
position degree : 17.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

Rated speed rpm : 150  
CRT mm min. : > 8.10  
Rated speed rpm : 300

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.20  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 10.30  
Tolerance mm : ± 0.15

Pressure hPa : 600  
rack travel mm : 11.40

Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 190

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 225.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
Combination No. : 0 402 996 002  
Injection pump  
Pump designation : PE6P120A720LS8032  
EP type number : 0 412 926 023  
Governor  
Governor design. : RE30  
Governor no. : 0 421 890 025

Cust. part No. : 1364497

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1201

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.85

Prestroke mm : 3.85  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 180.00  
Tolerance : ± 0.50



Check tolerance °NW : +- 0.75  
Barrel no. : 1

---

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min<sup>-1</sup>: 0  
Setting point (P, R and H pump)  
Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10  
Check value (P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point (M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with deenergised adjusting magnet

and control rod in stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

---

ENGINE-SPEED SENSOR  
(All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference Amplitude to Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.400  
Del. quantity cm<sup>3</sup>/1000 strokes : 372.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 11.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 14.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 3.400  
Del. quantity cm<sup>3</sup>/1000 strokes : 327.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 10.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.03.96  
Test oil : ISO 4113  
  
Combination No. : 0 403 446 301  
  
Injection pump  
Pump designation : PES6MW100/72ORS1131  
: -1  
EP type number : 0 413 406 165  
  
Governor  
Governor design. : RQV300...1300MW50  
: -22  
Governor no. : 0 420 083 268  
  
Cust. part No. : 0220745102

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 177.0

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TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

---

BASIC SETTING

Rated speed rpm : 1300  
  
Rack travel in mm : 14.45  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm3/1000 strokes : 113.0  
  
Tolerance  
cm3/1000 strokes : ± 1.0  
  
Check tolerance  
cm3/1000S. : ± 3.0  
  
Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 300

Rack travel in mm : 7.30  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.37  
Tolerance mm : ± 0.20

Rated speed rpm : 1355  
guide sleeve  
travel mm : 8.66  
Tolerance mm : ± 0.15

Rated speed rpm : 885  
guide sleeve  
travel mm : 5.01  
Tolerance mm : ± 0.25

Rated speed rpm : 500  
guide sleeve  
travel mm : 2.92  
Tolerance mm : ± 0.25

Rated speed rpm : 1610  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 9.00

N20

Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 113.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
position degree : 114.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1480  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 7.30  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.50

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 14.45  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.95  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 500  
rack travel mm : 13.80  
Tolerance mm : ± 0.10

Pressure hPa : 200  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 109.0

Tolerance cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

Spreed Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.30  
Tolerance mm : ± 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.5  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.03.96  
Test oil : ISO 4113  
Combination No. : 0 403 476 145  
Injection pump  
Pump designation : PES6MW100/32ORS1244  
EP type number : 0 413 406 244  
Governor  
Governor design. : RSV500...1100MW1A399  
Governor no. : 0 420 085 289

Cust. part No. :

Customer-spec. information  
Customer : SISU  
Motor : 634 DWE  
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75  
Start of delivery blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075  
Rack travel in mm : 12.10  
Tolerance mm : + 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000s. : + 4.0

<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
<hr/>	
Rated speed rpm :	500
<hr/>	
Rack travel in mm :	3.30
Tolerance mm :	+ 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes :	11.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
<hr/>	
governor spring	
pre-tension	
click setting x :	5.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1075
Aneroid pressure	
hPa :	1200
Del. quantity	
cm <sup>3</sup> /1000 strokes :	140.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

---

CONTROL LEVER

control lever	
position degree :	112.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.10
Rated speed rpm :	1130
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1180
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	1.00
Tolerance mm :	+ 0.70
Rated speed rpm :	1300
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1190

---

LOW IDLE

control lever	
position degree :	84.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	500
rack travel mm :	2.80

Testing:

Rated speed rpm :	500
rack travel mm :	3.30
Tolerance mm :	+ 0.10
<hr/>	
rack travel mm :	2.00
Rated speed rpm :	540
Tolerance 1/min :	+ 30

---

TORQUE CONTROL

Rated speed rpm :	1075
rack travel mm :	12.10
Tolerance mm :	+ 0.05

Rated speed rpm :	600
rack travel mm :	12.10
Tolerance mm :	+ 0.10



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.10  
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.50  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 11.60  
Tolerance mm : +- 0.15

Pressure hPa : 400  
rack travel mm : 10.25  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1130  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 500  
rack travel mm : 3.30  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.03.96  
Test oil : ISO 4113  
Combination No. : 9 400 083 422  
Injection pump  
Pump designation : PES3A80D320/3RS1264  
EP type number : 9 400 083 053  
Governor  
Governor design. : RSV350...1200A2C627R  
Governor no. : 9 420 083 288  
Cust. part No. :

Customer-spec. information  
Customer : MWM  
Motor : D225-3

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 003  
Outside diameter : 6.0  
x inside diameter : 2.0

N26

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 2.25  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende

and maximum rack  
travel : 10.50  
Tolerance mm : +- 1.50  
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 9.45  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0

Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0  
 Rated speed rpm : 350  
 Rack travel in mm : 7.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 9.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 4.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 51.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
 position degree : 50.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.40  
 Rated speed rpm : 1245  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400

LOW IDLE

control lever  
 position degree : 20.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 5.50

Testing:

Rated speed rpm : 350  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 520  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 9.45  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 9.50  
 Tolerance mm : + 0.10

Rated speed rpm : 400  
 rack travel mm : 10.90

Tolerance mm :  $\pm$  0.30

---

BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 1245  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 7.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

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End of test specification sheet